WESTERN FARMER & GARDENER.

"THE PROFIT OF THE EARTH IS FOR ALL; THE KING HIMSELF IS SERVED BY THE FIELD."—*Eccles* 5-9.

VOL. III. INDIANAPOLIS, AUGUST, 1847. NO. 7.

TERMS: FIFTY CENTS A YEAR IN ADVANCE.

WESTERN FARMER & GARDENER.

HENRY WARD BEECHER---Editor.

JOHN D. DEFREES, *Printer and Publisher.*

Indianapolis, August, 1847.

BURR'S SEEDLING STRAWBERRIES.

We are about to have an immense increase of seedlings. The process of origination is not difficult. Many amateurs are already sending forth dozens of kinds. Are these experiments conducted with any special aim? What are the faults of the old kinds? Are the new sorts bred with reference to certain desiderata? The mere fact that a kind is new, and large, and good, does not entitle it to a name and a price of five dollars a dozen plants. There is no special merit in raising very good sorts. *No strawberry ought to go forth unless in some respect it is decidedly better than established kinds.*

Our attention has been more especially directed to this matter by the recent report of the Cincinnati Horticultural Society, upon seven seedlings of Mr. Burr's, Columbus, Ohio. We should have been glad to have had the report more explicit upon two points, and if any of the gentlemen on the committee will yet give us the information, we shall feel obliged to him.

First. Do the committee state *on their own knowledge*, the habits of the kinds mentioned? Or is it stated upon the testimony of Mr. Burr, that one "bears well;" another, "a full bearer;" "a profuse bearer." Without doubt Mr Burr's statement would satisfy any man that any one of his seedlings was a profuse bearer—*so far as his experience had gone.* But if they have been cultivated as yet in but one place, if only under Mr. Burr's management, then it ought to appear, in any report, *to what extent they have been proved.* As it is, the greatest number of readers will understand Messrs. Longworth, Ernst, Hoffner, &c., as stating, on their own personal knowledge and after a proper trial, that these plants have, *as a general character*, the habit of "profuse" bearing, "abundant" bearing, "good" bearing, &c.

The second matter on which we lack information, is, the comparative merits of these candidates. Are they all better than any now cultivated? Is each better in some one respect? Are they more hardy, more prolific, larger in fruit, higher flavored or colored? Is there good reason, aside from their *newness*, why they should supplant old sorts in our gardens or share "bed and board" with them?

It is not enough that a society should report simply with their eye upon a lot of fruit. As the report is meant for the community, it ought to be carefully considered what effect a given report will probably have upon the community. Did the Cincinnati Horticultural Society design to say to cultivators—"These seven seedlings of Mr. Burr's, have been thoroughly tested, and are found worthy of general cultivation," or did they only mean to say: "In so far as we have been able to judge from the mere inspection of the *fruit*, we are pleased with Mr. Burr's seven seedlings, and recommend that they be further tried until their full habit and worth be ascertained."

It is our impression that the latter report was all that was warranted by the facts; but the first one is certainly the one which, in effect, has been made.

We do not make these remarks to prejudice Mr. Burr; or because we think his seedlings less than excellent. The fact is, that we know very little about them. We are told that they are excellent: So is the Hudson, Early Virginia, Hovey, &c., &c. Are these *as* good? are they better? do they supply any deficiency in old sorts? do they bear later, or earlier, or better, or larger fruit, or in *what respect* do they claim admission among standard strawberries?

The difficulty of raising apples and pears will put some kind of limit to their increase. But if the fever once rises for originating small fruits, whose term of maturity is short--a year or two—we shall be deluged with novelties unless there be distinct *terms of admission.*

REPORTING FACTS.

No intelligent mind observes any phenomenon of nature without in some sort reasoning upon it. But there are few who know how to keep their reasonings and their facts separate. Indeed, easy as it may seem, nothing is more infrequent than a simple statement, uncolored. The eye observes with reference to some theory; to some discovery. Hence, less than the whole is reported; or the whole and something to boot. The wag who requested his landlady to put the hair in one dish and the butter in another, that he might "mix them to suit his taste," unconsciously gave the exact formula for observers and reporters of nature—facts by themselves; deductions and speculations by themselves. This is so often neglected, that we regard as worthless multitudes of articles which appear in the agricultural press. In strictly scientific circles these things are understood. In horticulture, amateurship is more prevalent than rigid science. One observation is enough to form an article, and a theory. Witness the theories upon the yellows, fire-blight, potato disease, &c.

This matter has been again brought to mind by verbal and written suggestions, not a few, in respect to the fruits and vegetables of the summer of 1846. One friend, sent us a loud laudation of his *peas*, a *new* kind; proven by two circumstances; first, *he* had never seen such before; secondly, the bugs did not attack them. Now both were undoubtedl true. Neither did the pea-bug in this region trouble a

peas to the usual extent. The season was remarkably free from them. Several friends had done something unusual in planting peas; planting at a special time, or in some peculiar manner, or with an ingenious manure, or by the side of some crop whose influence was supposed propitious and defensory. Each man, forgetful of the general character of the season, attributes the exemption of his peas to his method and management.

It so happened also, that the curculio was comparatively scarce in the summer of 1846. We cannot tell how many infallible remedies for curculio sprung up in consequence. Each man had *proved* it; "there was his tree which never before had ripened a plum; he hung old iron in the branches and the tree fairly broke with its weight of fruit!'other' An ruffled his tree with wool, on the supposition that curculio crawl, instead of fly! and if he did not "pull the wool over our eyes," in reporting this infallible remedy, he did over his own. Another man gravely informed us that he saved his plums by hacking the tree with a rusty knife! A multitude had their faith confirmed in pavements; salt; outspread and underspread sheets; shaking; when after all, the peculiar efficacy of almost all the remedies arose from the comparative scarcity of the curculio.

It is said that "facts won't lie;" on the contrary, there is no lying equal to that made up of facts.

WHEAT CROP.

It is very plain that people love to be fooled; on what other ground can we account for the annual belief of the annual lie about the destruction of wheat crops? Every year since our remembrance the winter has killed the wheat, or the spring has sent the fly, or the summer has struck it with rust. Every year the crop is "not worth cutting," does not "give back the seed sown," or is actually "plowed in to give room for another crop," or it is not at best, "half a crop," along ways "below an average." We think that the disease to which wheat is the most subject in spring, is the disease of *lying*; for which there seems no remedy.

After all the usual croaking, the wheat harvest proves excellent. From all that we can gather, we believe that the *weight* of wheat in the country will be at a fair average, although the number of *bushels* may fall somewhat short. It is the testimony throughout the wheat sections that the grain never came in in better condition; and that the quality of the crop is such as to compensate any deficiency of quantity, if such deficiency there be. Indeed, except in portions of Ohio and Michigan, we see no authentic reports of any special deficiency. We believe that the surplus wheat of the United States will measure more bushels in 1847, than it did in 1846. Flour is now selling in Philadelphia for $5; but in Indianapolis it is worth $4.50! Can any one give a good reason for so high a price here, where wheat is worth but 40 cents a bushel? Five bushels of wheat sell, unground, for $2.00; but when ground up, for $4. or $ 5.50.

THE PLUM.—Downing says the plum is naturally a marine tree, and it is surprising how much salt it will assimilate and thrive upon. We have, ourselves, given a single large tree a half bushel of salt in a season, applied to the surface of the ground in the spring, over an area as wide as the extent of the branches. The tree was in a sickly and enfeebled state, and it had the effect of restoring it to a healthy and luxuriant condition. But we consider this an extreme case, and should not recommend the abundant use of salt every year.

COMMUNICATIONS

CINCINNATI, July 15th, 1847.

Dear Sir:—I write, though not certain that you have reached the "wilds of the west," on your return from "the land of steady habits." We are anxious to have your views of the Eastern Doctrine of sexual change in the blossom of the strawberry plant, and the bearing character of the Eastern *perfect* plants; the Swainston, Ross, Phœnix, Boston Pine, and some others. Did you see the latter plant in fruit at the Messrs. Hovey? I am desirous of learning his manner of cultivation. I presume it is in imitation of the method pursued in the gardens of the wealthy in England. The plan may suit the nabobs of the queen of commerce and rail roads, but will not be countenanced by the democracy of the west; to the progressive portion of which I profess to belong. In England, staminates are considered great bearers, as they show but little of the true botanic character of the plant. It suits, admirably, in a region where strawberries, to be valued, must cost $1.00 per quart. With our cultivation, the famous Keen's seedling will not average one-tenth of a crop of perfect fruit. In England, it is their pride and boast, and all their gardeners contend that it is there a great bearer. In England, the plants are set single, and from eighteen to sixteen inches from plant to plant, and all runners cut off as fast as they appear. The consequence is, that the strength of the plant is not exhausted on the runners, but on the blossom and the fruit. The Keen, and some other staminates, having the pistils also in most of the blossoms, perfect, or partially so, are greatly aided in their bearing, and in the size of the fruit, by the method of cultivation. Those blossoms that would not with common culture, produce perfect fruit, are able to do so, by the vigor thrown into them, by having all the runners cut off, and a full exposure to the sun and air. With this culture, the Boston Pine, may in a favorable season, produce a fair crop of fruit, and possibly one-third or one-half of it perfect. With our common culture for market, it will not average one-tenth of a crop of perfect fruit. I regret that our horticultural societies have not been more cautious in their reports. They judge of the value of the variety, from the specimen sent them, and report on its bearing character, from the account given, by the person who cultivates them for sale. I expect a report of a different character from our strawberry committee, this season. They are all more or less acquainted with botany, and all horticulturists, who devote a portion of their leisure hours to the cultivation of the strawberry. At the head of the committee, stands Dr. Warder, a skilful botanist, and he has been unremitting, in common with the rest of the committee, in visiting all the gardens in the city and its neighborhood, where attention is paid to the cultivation of the strawberry. I should much dislike to have been a patient of his, for the two last months, and have occupied an equal portion of his time, and have occasioned him as many trips to the country. My pocket would be the sufferer, to the tune of $1000, if it were not that they are effectually drained by our tax-gatherers.

Yours, with regard,

W. LONGWORTH.

INOCULATION---DOWNING'S METHOD.

Having for several weeks past been engaged in propagating fruit trees by inoculation, or budding, for the sake of speed, I was induced to try Mr. Downing's novel mode, called "American shield-budding," and recommended by him as the best. His directions are, to use the buds without separating them from the slice of wood which necessarily adheres to them.

Now, after having practiced this mode on several hundred young apple trees, of the nursery, and witnessing the result, I feel confident that no one practicing this method can be successful, for at least *one seventh* of all thus inoculated by me have failed to germinate. And my opinion is, if the work is not performed early, say from the 10th to the last of June, when the buds are young and tender, the operator must experience a much greater loss, as the nearer the wood approaches maturity, the more doubtful the oper-

ation must be. After several years' experience in the old plan, of taking the wood out of the buds before inserting them, being careful to leave the eye or root of the bud unhurt, *one-twentieth* was the greatest loss.

Now, why Mr. Downing's quick perception, and close observation, would suffer him, to make choice of, and recommend, such a system of propagation, is astonishing to me; surely he does not desire to mislead those who, in their simplicity, are willing to follow! Although the "Fruit and Fruit-trees of America," is the best work of the kind extant, yet, reason, the philosopher's touch-stone, must have been absent, when Mr. Downing was *theorizing* on the subject of budding!! J. H. ROBINSON.

EBERLE, Putnam Co, Ia., July, 1847.

DURHAM CATTLE---BAKEWELL SHEEP, &c.

MOUNT CARMEL, Franklin County, Ia.,
July 22d, 1847.

In the Farmer and Gardener, some time back, I noticed some remarks made by you, that improved cattle were very scarce in Indiana, and that if one should be wanted within twenty-five miles of your city, that you did not think it could be had. I therefore wish to inform you that I was in England in 1838, and imported three cows and one bull, and I have now about forty head of full-blooded Durhams. I need not say much about the superior properties for feeding in these animals, as I believe they are well known among cattle breeders. I sold two young calves last week — a heifer and a bull — for one hundred dollars, to go into Wayne county, Ia. I am raising a good many calves now every year, and could supply customers with the choicest animals to be found in this county, in age from sucking calves upwards. I also at the same time with the cattle, imported some Bakewell sheep, which are very healthy and full of wool, and do well in this and the adjoining States. I have also got a good many half-bloods, three-quarter, seven-eights, and fifteen-sixteenths, which buyers can have choice of. I have sold, for the last five years, my half-blooded fat weathers to butchers in Cincinnati, for five dollars each. The half-blooded sheep and upwards are large and full of wool. I sell my wool every year for within three to four cents per pound as much as the finest wool of the county, and consequently by the great increase in quantity, make about double the money off my wool that others do off any other grade of wool; and as to the price of these sheep when fatted, compared with any other common or fine-wooled sheep, is easily known, and I believe about $1.00 to $1.50 is the ruling price in this western country. These sheep can be made much fatter with less trouble and in half the time that you can possibly fatten common stock. I would refer you to John Butcher, Samuel Beresford, Alexander Stewart, A. & W. Gall, Butchers, Cincinnati, as to the fineness and fatness of these sheep. You noticed in your Farmer and Gardener that some enquiries had been made of you, whether any Black Side Oats could be had. I have to say that I brought five different sorts of oats from England with me. We sowed them all in one field, side by side separately, and when harvested we so much preferred the Black Tartary Side Oats, that we have never grown any other kind since, they are so well adapted to the country and yield so well. I could furnish oats for seed through the winter and spring, if wished.

I would further state that I brought some vetches or French tares with me and sowed them, but they did no good whatever. I think this climate will not suit them at all. I also know an Englishman who tried some and some Lucerne, and neither answered with him.

You are at liberty to make what use of this you please.

Yours, very respectfully,

CHRISTOPHER WHITEHEAD.

FINE WOOLLED RAMS.

Mr. A. H. NICHOLS, of Greencastle, in a letter says: "I have added to my stock of fine-woolled rams, some very superior young ones, bred from a Saxon ram imported by Henry Clay. I have also added to my flock, twenty ewes and rams from the justly celebrated flock of Samuel Patterson, Esq., of Washington county, Pa. His clip sold last year at seventy and seventy-five cents per pound, at North Hampton, Mass. Having taken the 'Virginia fever,' I would sell my farm; it is a pleasant one under a high state of cultivation, abounding with the choicest variety of fruit, and well calculated for any gentleman desirous of settling near our college."

MORE ABOUT SOAP.

FORT WAYNE, June 24, 1847.

Mr. Editor:—In vol. 1, pages 81, 82 and 83, is a somewhat lengthy article over the signature of "F," on the subject of soap-making—a subject that interests every family. That article although well written, did not place the reader in possession of *all* the information necessary to make good soap, or indeed any kind of soap, except by accident. Page 55, present vol., "J. B." asks further information. To this "J. T. P." responds, in which he throws out some good ideas; but the essence of the information is yet behind. He says, "the specific gravity of lye as ascertained by an egg, and similar means, or indeed by any means, is no test of the strength of the fluid. Lye may be boiled until, (extravagantly speaking) it will float an iron wedge; and yet be totally unfit for making soap. The virtue of lye for this purpose is in its *causticity;* and this may be sufficiently determined by various easy methods." Now *what* are the "various easy methods?" When is lye too much "*carbonated*," and how is it ascertained, and what is the "easy remedy?" Here lies the whole secret in a nut shell. For if there is no defect in the lye, soap will assuredly "*come*" as you put grease in it. If it does *not* "come," the lye is defective and all the soap-makers in *Brooklyn* will fail to make it until it is ascertained what the defect is, and to know how to apply the remedy. The information required then is, how is a plain housewife to *know* what the lye is deficient in; and after she ascertains that, *what* is the remedy? *. *. *. *.

SELECTIONS.

KILN-DRYING INDIAN CORN.

At the meeting of the State Agricultural Society held at Saratoga Springs, on the 3d instant, a description was read of a new apparatus for *kiln-drying Indian Corn*, recently erected by Col. John H. Tower, and which ought to be understood by persons engaged in shipping corn to for foreign ports. Those who have seen the operation of this method, have no doubt of its entire success. It is thus described:

"A frame-work of brick is built, arched at the top enclosing a sheet iron cylinder, made up of separate tubes about two inches square, coupled together with iron castings. An iron shaft passes through the cylinder, sustained by a support at each end, and over a pliey at one end of this shaft, runs a belt from some of the machinery of the mill, which thus furnishes the motive power of the machine. The grain runs from a feeder into the head of the cylinder, thence into the tubes, and as the cylinder revolves, one end of it being elevated, the grain has a revolving motion, gradually passes forward and through into a receiver at the other end. A small furnace or common stove in the bottom of kiln with pipes passing from it under the cylinder, furnishes the heat, and the rapidity of the drying process depends upon the fire and the elevation of the head of the cylinder, both of which can be regulated at pleasure.

"A kiln of this description, with a cylinder 13 feet long and 16 inches in diameter, (which will require about twenty tubes,) will readily dry from three to four hundred bushels per day, consuming not over half a cord of wood, requiring no attention except to regulate the heat, and the whole cost of the machine cannot exceed one hundred dollars.

"Its capacity can readily be increased by increasing the size of the cylinder, or what probably would be preferable, by placing several in the same arch, and a trifling increase of expense will furnish a machine which will dry one thousand bushels per day.

"The great advantage of the invention is, that the corn (and other grain can be dried in the same manner) has a con-

stant rotary motion, and therefore is not burned on one side before it is dry on the other; thus the corn comes out as bright and yellow as when it left the ear, and an article of meal is furnished for market altogether superior in appearance and value."—*Albany Evening Journal.*

PEARS ON QUINCE STOCKS---ROOT PRUNING.

I feel that it is a duty I owe to your correspondents and the gardening world generally, to notice the letter of a "Constant Reader," in No. 21. It will, perhaps, be the better mode to take his questions and remarks *seriatim*. He says, "I have been for years much interested in the proper stock for fruit trees; my impression is, that the pear cannot be produced in its highest state of perfection (whatever the mode of treatment or the stock used) on any other stock save the pear stock." To this I can answer most positively that the very finest pears I have ever seen or tasted have been produced on pear trees grafted in the quince. I use no stocks but the pear and the quince; the former for orchard trees, or for those who prefer the pear stock; the latter solely for garden trees, principally to form prolific pyramidal trees, for which they are unrivalled both in beauty and fertility. I fear "Constant Reader" has also been constant to his home: has he never seen or tasted the magnificent pears in some of the fruit gardens near Paris? has he never seen the pear trees in the Potagerie at Versailles? or tasted the fruit from them? (Mind, trees there are nearly all grafted on the quince.) If he has not done this, he has yet something to see and taste. I repeat, that I use only the pear and the quince as stocks, and I find the pear stock submit as kindly to root-pruning (or even more so) as the quince. I can illustrate the good effects of root-pruning very forcibly in my specimen orchard, and at any time your correspondent may see and believe; however, I must tell my tale, and then proceed.

About thirty years ago, my father planted some rows of pear trees in a portion of the nursery, then a recent purchase; these were all common sorts of pears, standards, grafted as usual on pear stock. They grew most luxuriantly for some eight or ten years, when their leaves began to change from their usually vivid green to a light yellow; in a year or two, this yellow tint increased till their foliage was really of a bright straw color; the trees soon after all died, so that, at the end of fifteen years, not a tree was left on this portion of the nursery, the subsoil of which, I must add, is hard white clay, full of chalk stones; this peculiar soil occupies a very small space, not more than a quarter of an aker, as the neighboring soil is a tender, sandy loam.

When I came to years of thinking, the untimely fate of these pear trees was often present to my mind, for I remember so vividly with what pleasure I had filled my pockets from them. I at that time also found that, to be able to know any thing about pears, I must have a specimen tree of every kind that I cultivated. No other but this "pestilent spot" of earth happened to be just the place most eligible as a site for my specimen ground. What could I do? I did not then think of root-pruning, but I thought that I should find some way or other to avert the untimely fate of my trees; I therefore planted them in the usual way, digging the wholes about two feet in depth, and mixing some manure and compost with the earth taken from the holes, but leaving the hard clayey subsoil below, to the depth of two feet, untouched. I watched my trees narrowly after four or five years, as I then expected to see traces of the effects of the clay soil upon them. I think some eight years must have passed and gone before their foliage turned yellow. My first thought said, remove them to a different site and soil; second thought, take them up and give them some fresh compost, they will last a few years, and you can then find a good place for them; third thought, if you can renovate them for a few years by taking them up and replanting, why not do this periodically, so as to keep your trees healthy: the site is good,—make the soil equally so; fourth thought, what occasion is there to remove the tree? cut its principal roots, leaving those that are fibrous; and so I became a pruner of roots. Now for effects, and "A Constant Reader" must recollect that any day the Eastern Counties rail will carry him either to Harlow or Sawbridgeworth, each equally convenient, for a few shillings, to see with his own eyes all that I state.

In my specimen ground are several standard pear trees from eight to ten years old; these terminate long rows of standards, left to grow as nature dictates, both root and branch, except occasional thinning of their heads. These, it must be recollected, are among my root-pruned specimen trees, a great number of which are from twelve to fifteen years old. They have had their roots pruned three times within these eight years, the last time in December, 1844. They are now full of health, and foliage, and fruit—in fact, all that I can wish them to be. The standard trees, with roots unpruned, have their leaves yellow, and are, I fear, hastening to death.

I now proceed to give a list of such sorts of pears that on my soil are decidedly higher in flavor when grafted on the quince, and not, (as your correspondent almost ludicrously says) "partaking of the flavor of the quince." Pray, have you or Mr. Thompson ever ate a quince flavored pear? that is, a pear having such a flavor from being grafted on the quince, (as I well know there are many pears with a very odd flavor.) Does the Ribstone Pippin taste of the Crab because it is grafted upon it? Does the peach acquire the flavor of the Mussel plum because it is budded upon it? Does the Green Gage ever taste sour and austere? and yet it is almost invariably grafted upon the common wild plum, which is uneatable, from its peculiar astringent acidity. I do hope, for the credit of your paper, that your correspondent is not your "Constant Reader." To return to my list. I must premise that every sort of pear is, as far as my experience at present goes, improved by being worked on the quince; but the following, in list 1, are remarkable for growing freely on the quince in most soils, without being double worked, bearing large fruit of the highest flavor:—

List.

1. Beurré d'Amanlis,*
2. Beurré Ananas,
3. Beurré d'Aremberg,
4. Beurré de Capiaumont,
5. Beurré Diel,
6. Beurre Easter,
7. Bon Chrétien Williams's,
8. Chaumontelle,
9. Citron des Carmes,
10. Colmar,
11. Colmar d'Aremberg,
12. Compte de Lamy,
13. Crassane,
14. Doyenné Gris,
15. Doyenné white,
16. Duchesse d'Angouleme,
17. Duchesse d'Orleans,
18. Forelle or Trout pear,
19. Fortune, (Parmentier,)
20. Franc Real, Summer,
21. Glout Morceau,
22. Gratioli of Jersey,
23. Jargonelle,
24. King Edward's,
25. Louise Bonne of Jersey,
26. Napoleon,
27. Passe Colmar,
28. Poire Chenille,
29. Princess Royal, (Groom)
30. Saint Denis,
31. St. Germain,
32. Van Mons Leon le Clerc,
33. Vicar of Winkfield,
34. Wilhelmina.

There are many other sorts that I feel almost assured will do equally well on the quince stock as the above. I forbear to add them till I am fully convinced by proving them. No. 3: Of this I ate my best specimens about the middle of last April; they were vinous, juicy, and delicious, from plants on the quince. Specimens from plants on the pear stock kept only till the end of February.

No. 5. This pear seldom ripens well from trees on the pear stock; on the quince, the fruit are larger, more handsome, of perfect flavor, and they invariably ripen well.

No. 6. On the pear stock here; (it must be borne in mind that I am always referring to trees in the open quarters—not wall trees;) this is a most crab-like pear, bearing but very seldom, and never ripening; on the quince it bears well, is of high flavor, and always ripens in April and May: it is, however, inclined to be gritty at the core, and this at present is the only pear I have found to be so from the quince stock.

No. 19. This is a perfect crab from trees on the pear stock; from the quince it is very melting and juicy, and really a good, small, late pear. I ate my last and only specimen this day, May 26.

No. 21. Grows freely here on the pear stock, and blooms freely, yet seldom bears any clear fruit; they are generally

* D'Amanlis, according to most French authors; d'Amalis, according to Horticultural Catalogue of Fruits

full of spots, and often do not ripen at all kindly. On the quince stock it bears clear handsome fruit, which invariably ripen, and are very highly flavored.

No. 23. On my finest soil here, a tender loam six feet in depth, subsoil sand, this sort always cankers, and very seldom produces any good fruit; in short, it is a very shy bearer when on the pear stock; on the quince it grows freely, and bears most abundantly; fruit, fine and clear, and of high flavor.

No. 25. This, of all the pears I know, is most benefitted by working on the quince. My specimen tree, on a pear stock now twelve years old, has scarcely borne a dozen good clear fruit, and some standards of nearly twenty years' growth canker at the tips of their shoots, and their fruit is, in most seasons, spotted and misshapen. On the quince, how different! I have trees, from three to five years old, full of fruit, and these have hisherto, every season, been large, remarkably high-colored, beautiful, and of the highest flavor. "Constant Reader" will, I think, see that I have some confidence in the quince stock, when I state that I have a young plantation of this variety, on the quince, of 1500 trees, which I hope to make up in the autumn to 3000; these are to bear to supply the London market. At the expense of being thought a little egotistical, I must tell him that I am not only a pear tree grower, but also a pear grower; Providence has kindly blessed me with fifty akers of good land, on which roses and pears, and I know not what, seem to be "very happy:" this is a favorite phrase with one of our best gardeners, who, when he sees a tree in fine order, or one the contrary, designates them "happy and unhappy trees."

No. 27 bears here, on the pear stock, a tremendous quantity of fruit: these are often inclined to speck, and they seldom ripen well in the fruit-room. On the quince stock the fruit are clear, always ripen well, and are of the highest flavor. I have, as above, given my remarks on a few well-known and preferable sorts; they may be applied, with slight modifications, to all the varieties in List I.

List II.

Pears that require double working before they will succeed on the quince; this is merely grafting or budding some free-growing sort of pear on the quince, and then re-grafting the graft, the following season, with the "with the refractory sort," to use the expression of your friend, Dodman."

1. Bergamot, Autumn.
2. Bergamot, Gansell's,
3. Beurré Bosc,
4. Beurré,
5. Broom Park,
6. Brougham,
7. Crassane, Althorp,
8. Crassane, Winter,
9. Dunmore,
10. Hacon's Incomparable,
11. Inconue, Van Mons, 175,
12. Jean de Witte,
13. Marie Louise,
14. Monarch, Knight's,
15. Nelis, Winter,
16. Ne Plus Meuris,
17. Saint Marc,
18. Seckel,
19. Suffolk Thorn,
20. Thompson's,
21. Urbaniste.

No. 3 is exceedingly "refractory," and I am not quite sure that it will live and flourish for any lengthened period, although double worked on very thrifty stocks. In some soils, this fine pear does not ripen well on standards; it is therefore very desirable to get it to do well on the quince, as it will, I have no doubt, bear when the tree is young; at present, it is, while young, a shy bearer.

No. 4. My standards of this sort, on the pear stock, too often bear misshapen fruit, inclined to speck and crack, and, in some seasons, not ripening well on the quince. Its fruit is clear, fine, and remarkably high-flavored.

No. 11. I notice this pear, as I remarked, a short time since, one of your correspondents inquired of you its origin, which you could not give. I received it, with several other sorts, from M. Van Mons, I think about eighteen years ago; I understood him at the time that they were seedlings, not then named; this is a very hardy and excellent late pear, about the size of Beurré d'Aremberg, but larger, first rate in quality as a melting pear, and fit for the table from February to April; the sorts then received were placed in the nursery catalogue as "Inconnue Van Mons," and numbered. They all still stand under the same name, with different numbers attached.

The sorts I use to form a stock on the quince for re-grafting are Beurré d'Amanlis, Jargonelle d'Automne, Fondante de Brest. These all form the most luxuriant stocks. Grafting on the quince often fails. I have known eighteen out of twenty to succeed in some seasons, and the same number to fail in others. It is an uncertain mode; budding is preferable. For double working you may always graft, that is, if you prefer it, or if your buds fail. Grafts succeed perfectly on the shoot of the pear produced from the quince stock the preceeding season. I earth up my trees, to encourage them to root close up to the junction of the graft with the stock, but not with the view of making the graft root. I wish to avoid this, as the effect of the quince stock is then lost. If you wish for cultivated pears on their own roots, there is much time and labor lost by this mode; for any variety of pear may be layered, and good plants obtained, in about two seasons.

And now for the last paragraph of your "constant" friend. Can we always find "soil and locality in every respect suitable" to the growth of foreign varieties of pears? Is not our method of placing them against walls and espalier rails, &c. "unnatural?" The peach tree, which, in the United States, in a natural state, bears such enormous crops, bears here at least equally fine fruit, but in most "unnatural" places. My root-pruned pear trees, many of them, I have purposely made to contend against nature; in a soil that is naturally death to them I make them flourish. To use the oft-quoted sentence, "a man that can make a blade of grass to grow," &c. is a benefactor to his race, and if I can, by precept and example, enable the numerous occupiers of small gardens to grow pears and apples for their desert nine months in the year, and plums and cherries during the summer, shall I not also be a benefactor in an humble way, I hope so.

Allow me to advise your correspondent to visit the Horticultural Gardens at Chiswick; he may there see pear trees of some twenty-five years' growth on the quince stock, with roots protruding from the stock close to its junction with the graft. Pictures of health and fertility, they have borne many bushels of fruit, and yet I have never heard the Fellows of the Horticultural Society complain that they tasted like quinces. Some fine trees of about the same age, on the quince, are also in the border. These were all removed about two years since, and, of course, their roots were pruned; on them may therefore be seen the effects of root-pruning.

I will conclude with the words of "Dodman:" "A very little care and judicious selection of sorts would insure them (pears) daily, from the end of July till May." I may add, that any garden ten yards square, or even less, will, with the quince stock for pears, the Paradise stock for apples, the Cerasus Mahaleb as a stock for cherries, judicious root-pruning and surface culture, supply a very ample dessert of delicious fruits.—*T. Rivers, in Gard. Chron. p. 372.*

CHOICE OF TREES AND SHRUBS FOR CITIES AND RURAL TOWNS.

In ornamenting cities, villages, or rural towns, as well as public highways, farms, private grounds, &c., it is a great desideratum to find a class of trees and shrubs that will rapidly attain the desired form and size, afford a healthful and agreeable shade, and are free from the attacks of insects or from accidents of any kind, and at the same time will tend to beautify the scenery, and ultimately prove useful for fuel or construction in the arts. With the great variety of species and varieties before us, whether in a wild state or under cultivation, one might be led to suppose it an easy matter to select from among them, all that could be desired, yet, when we take all their points or qualities into account, how few there are free from objection. One class seemingly answer the desired end for the first ten or fifteen years, and then, by exuberance of growth, become too much expanded for the situations they occupy, and unless their beauty is destroyed by pruning, they grow top-heavy, and are finally uprooted or shattered by the winds; other kinds appear to flourish with vigor during the first few years, assuming a variety of graceful and picturesque forms, and then are checked in their growth, become sickly, or stag-headed, and unsightly to the eye; while a third class, although they may

possess satisfactory qualities in most other respects, are attacked by noxious and disgusting insects during certain seasons of the year, and are often greatly injured thereby, if not totally destroyed. Hence the difficulties our early tree-planters labored under, who groped along in the dark, in many instances, and we need not be surprised, nor should we attach any blame to their praiseworthy efforts, even if they have not been the most choice in their selections, and the most judicious in their management.

Without entering in detail into the monotony of that large "sylvan park," the Boston Common, with a variety of soil and surface that would admit of one of the finest arboretums in the world, or to dwell upon the seventeen "cities of elms," in other parts of New England, or upon the long, formal rows of exotics in our national metropolis, where, before all other places, we might be led to expect a conspicuous display of indigenous trees, I will pass to Brooklyn and New York. These two cities probably contain a greater number of species of cultivated trees, native and foreign, than is occupied by the same extent of ground in any part of the Union. Hence it may be inferred, that in planting streets, out of so large a number of trees, an injudicious choice, in many cases, would be made, which would unavoidably be attended with consequent evils. The trees of this description, which most predominate, are the weeping willow, the button-wood (sycamore), the European linden, the American and European elms, the silver-leaved maple, the catalpa, the three-thorned gleditschia, the tulip-tree (whitewood,) the horse-chesnut, the paper-mulberry, and the abele. None of these trees, nor any others of equal dimensions should ever be suffered to attain one-half of their maximum size, within fifty feet of any human dwelling, either in country or town. These trees, to be sure, when young, like striplings, shoot into graceful forms, with a lightness and an airiness about them, that is pleasing; but when they expand into their natural proportions, and attain their full growth, they become two large for the situations they were intended to occupy, and by the fullness of their foliage, often produce an unhealthy shade. For we have every reason to believe that many residences, which naturally would have been salubrious under other circumstances, are rendered damp, gloomy, and unhealthy, during certain periods of the year, by the superabundance of trees and shrubbery, growing in their immediate proximity; and besides, when thus planted, the leaves of several of the aforenamed trees, serve as the food of myriads of millions of insects, or their larvæ, which so often infest the rooms of our houses, and annoy passengers in the streets. What I have stated above is plainly illustrated in Fig. 44, next page, by the two largest trees, the like of which repeatedly occur in Brooklyn, and even instances might be cited where entire blocks of houses are dampened, darkened, and overshadowed by tall forest-trees, which are liable at any season to be uprooted, or shattered into fragments by the violence of the wind. The pruning of these trees, in many cases, has been entirely neglected, while in others the operation has been carried too far. It has not unfrequently happened, that, when the tops of the trees became sufficiently expanded to darken the houses, or intercept the view, in order to remedy the evil, the whole of the lower branches have been cut away, leaving the upper ones to form an unnatural and often ill-shapen head.

The streets of the cities and larger towns of this State, seldom exceed three of four rods in width, and consequently will not admit of the growth of trees much more than fifteen or twenty feet in height, without more or less injury, or inconvenience, to the neighboring habitations. In several cities of Europe, the planting of trees and shrubs in streets is regulated by law, and in some cases, it is required that they be of such a character as will not reach above the lower parts of the windows of the second stories. The trees and shrubs that would answer such a purpose in the cities of New York, with judicious pruning and lopping, are the red-flowered maple, the sugar-maple, the American white beech, the American red beech, the Osage orange, the June berry, and the flowering dogwood. The latter, or some allied species, will flourish in any part of the United States, and can be removed, if taken up with care, of almost any size, at which it will grow. In order to effect this, it is only necessary to take up a ball, or mass of earth, adhering to the roots, and plant the tree at the same depth in the ground, and with the same side of the trunk towards the south, as it originally grew in the nursery, or in the woods.

In selecting any of the above-named trees, it would be advisable to obtain those grown in nurseries in the immediate vicinity of the sites where they are intended to remain; and such as grow naturally to the greatest perfection in the neighboring forests should be preferred, where the soil and climate are essentially the same.

A few words on the parks and public squares, in Brooklyn and New York, seem to demand a notice, as not a single species of oak, beech, birch, American ash, walnut, negundo, dog-wood, holly, and numerous other native trees and shrubs, is to be found in one of them. In general, they are planted with the same kind of trees as the streets of these cities, with but little regard to the groping of them into pleasing and picturesque assemblages, and the selection is often bad, the trees in some cases being totally unfitted to the soil in which they grow. For instance, the frequent occurrence of the weeping willow, on the battery, where, for reasons already stated, they are annually uprooted by tempestuous winds. All of the parks, as well as pleasure-grounds throughout this State, doubtless would admit of the successful cultivation of at least one hundred kinds of trees, which if tastefully grouped and contrasted, would lead to a point of human refinement unsurpassed by any collection in the country, even Washington square, in Philadelphia, with its groups of beautiful bur-oaks (*Quercus macrocarpa*,) pin-oaks (*Quercus palustris*,) catalpas, silver-leaved maples, negundos, Kentucky coffee-trees, liriodendrons, and a host of other trees, from two to three yards in girth.

It is much to be regretted, that the plan proposed some twenty years since by the late M. Parmentier, of Brooklyn, for planting the Park, in New York, was not adopted, and every species of American tree, that could possibly be made to grow, placed there; the magnificence of which could only be equalled by a grand national arberetum, in the city of Washington, where almost every native tree would live. But this we cannot reasonably expect to be done; for in the progress of civilization in all countries, there are many much more important things to be considered than the culture of trees and shrubs.—[Condensed from the transactions of the New York State Agricultural Society, for 1846.]

American Agriculturist.

PRODUCTION AND PREPARATION OF CORN FOR THE EUROPEAN MARKET.

The present season seems fully to have settled the question in favor of an immense exportation of Indian corn to European ports hereafter. Necessity and famine have overcome prejudices against its use there, which heretofore had been unsurmountable. Appetite has given to it a relish and a flavor, which otherwise it would have never been found to possess; and the recollection that it has saved millions from famine, will hereafter endear its use to the multitudes abroad wherever it can be had.

To provide for this permanent demand, is now the proper duty, as it will be the decided interest of the American farmer. Yet this should be done within reasonable bounds. It will not do for the sugar or cotton planter; the hemp, the wheat, or the tobacco grower, to abandon his accustomed crops, and divert from their appropriate uses soils little suited to the growth of corn; nor for the grazier, the stock-breeder, or the shepherd, to neglect or turn from his legitimate pursuits, to the cultivation of this grain. If any absurd system like this be adopted, to any extent, corn will go down and the neglected crops will go up, till the scale is reversed.

Yet there is danger of this. Americans are too impulsive, too excitable, and it is too often a feast or a famine with them. If an article or pursuit seems to pay, every one rushes into it; if appearances are against it, they are for abandoning it in the mass. We run from agriculture to manufactures, from manufactures to trade, and from trade to speculation. At one moment we have a high tariff, at another scarcely any; sometimes we have no banks, and at others, every village may boast of its own, and the excess soon reduces the country to utter destitution again. Our pendulum is ever on the swing, and dashes far beyond the centre

of gravity on either side; and if our ship gets a little out of trim, we are all so eager to right it that we rush tumultuously to one side and careen her worse than ever.

A slight addition to the quantity of akers now devoted to the culture of corn, with more careful planting, manuring, and cultivation, and with greater economy in its feeding and use, will swell immensely the annual amount sent forward to the shipping ports. Added to this, new land is constantly brought into cultivation, and with high prices and an unstinted demand staring us in the face, what so likely to command attention as an article that pays so well and makes such immediate return? The capital required for growing this crop is so near to nothing as to be inappreciable. In some places, a hoe and a few bushels of seed only, are required to make a large crop; and in all others a few plows, and teams to draw them, are the principal items of expense. With a boundless extent of soil reaching from Maine to Mexico, suited to its growth, with the enterprise and well-known skill of our productive classes, stimulated to the highest pitch of exhorbitant demands, we may well apprehend that our future crops will rather be in excess than deficient in this article. Certain it is, that while every effort should be made for its largest production, where it is following out a present adopted system, yet in no case should a deviation from an ordinarily cultivated crop be made for the sake of this. The sugar-planter, whose cane has been cut off by frost or diminished by excessive rains; or the cotton-grower, whose plants have been thinned and rendered comparatively barren by catterpillars, rust and other causes, may be inclined to turn from his course and trust his luck with corn, which is generally a surer, and may be supposed to be a more profitable crop.

It may be, and no doubt generally is, the most profitable course a planter can pursue, to divide his products to the extent of raising his own supplies for plantation use; but beyond this, it is not deemed profitable to go, by such as have lands well adapted to crops already profitably occupying their attention.

The effect of high prices in one prominent product, has almost invariably the tendency of raising others; as the increased price obtained for either, stimulates demand for all. Especially is it to be apprehended, that cotton may fall behindhand, from the many casualties and the low prices that have attended its culture for the last few years.

But my present object is more particularly to call the attention of the readers of the Agriculturist, at points remote from the seaboard, to the propriety of properly preparing their grain for shipment. We are now beginning to receive accounts from the heating of grain after shipment. This damage has, in many cases, exceeded one-half the entire value of the cargo; and although this loss, in the first instance, falls on the shippers, it is pretty sure, in the end, to reach back to the producer. This hazard has become so great, from the excessive tendency to heat in Indian corn, if retaining the slightest moisture when stowed in the vessel, that some of the heaviest dealers in New Orleans have determined to risk no further shipments, without the grain being first fully prepared for it, and this is effectually done by kiln-drying.

Several establishments have been recently erected for this purpose in this city, two of which at least have proved defective in accomplishing the objects satisfactorily. Another is about being put up, of sufficient capacity to kiln dry five thousand bushels per day. Kilns have already gone into operation in several of the exporting places on the river above, and there is no doubt these will be rapidly multiplied, till sufficient capacity shall have been attained, to prepare effectually every bushel of grain destined to a distant market.

The best plan for this purpose, on an extensive scale, which I have seen in operation, is a new, and apparently valuable improvement for kiln-drying, the invention of Geo. W. Woodington. He is about taking out a patent for it, for himself and Mr. Geo. Gilbert, both of Cincinnati.

The first one ever erected has just been put into operation. It consists of substantial brick mason work, about twenty-four feet long, six wide, and eight high, arched with brick. The fire and grate occupy three feet of the centre, at the bottom. Immediately above the fire are iron plates, resting on the walls on either side, extending the whole length. At the other end, the flame and smoke are divided and pass up through two iron pipes at each corner, and then on either side, and almost in contact with the cylinder, they turn the smoke through the kiln, where they pass out.

The cylinder is of strong sheet, light boiler iron, three feet in diameter, and occupies the entire length within the mason-work. On the inside of this, flanges are riveted lengthwise and spirally, turning about 170° of the circle, in the whole length of the cylinder. It is placed one foot above the fire in an arch, which is kept at a temperature high enough effectually to dry the corn while passing through, which requires some ten minutes. The corn is fed into one end of the cylinder, by a spout leading from a hopper above, and it is discharged from the other end, and through a short iron conductor. It is capable of effectually drying 800 bushels in twenty-four hours, which it accomplishes without burning or cracking any of the kernels. Not one is scorched or discolored, but all have the bright, clear appearance and original taste of the grain, while its germ or vitality is effectually destroyed, thus removing all tendency to change or injury.

I cannot but believe, that all corn destined for remote shipment hereafter, will be kiln-dried. There is a saving of nine per cent. in freight, in consequence of loss of bulk and weight in drying—saving of insurance—there is no danger from wevil from any kiln-dried grain; and there is, lastly, the frequent saving of the whole grain, which would otherwise spoil by moisture. I have the above fixtures for sale at my warehouse, 75 Camp street., New Orleans.

N. Orleans, April 29, '47. R. L. ALLEN.

ESSAY ON HORNLESS CATTLE.

It is stated in the books which treat of agriculture, that the quantity of nutriment which goes to the making of a pound of horn is equal to that which would be required for a pound of bone. The average weight of a pair of horns upon full-grown neat cattle may be set down at about six pounds. It may safely be reckoned that at least thrice the nutriment is expended in order to the formation of bone, which would be taken up in the production of the same weight of flesh. To make a pound of beef, costs, on an average, not less than three pence:—every pound of horn, then, costs the grower of the animal, at the lowest computation, nine pence; and a pair of horns take up in the growth the value of six times nine pence, or about one dollar.—The horns are only sold with the hide, and the tanner redisposes of them at six pence or a trifle more per pair, so that he doubtless gives nearly a dollar a piece less for his hides than he would be enabled to do if the cattle had none of these expensively-made horns. There is no profit, then, in the sale of horns:—let us see if there is any use in having them upon our cattles' heads.

But here the reader, if he be one who would take a wife for the beauty of her ribbons, may exclaim, "How ill a cow *looks* without horns!" But we must divest ourselves of prejudice, and consider that a cow *looks* with her eyes, and only *hooks* with her horns. It may be the man, and not the animal, that does not *look* right. A sheep does not appear the worse for being without horns: and we are accustomed to seeing sheep both with and without, and can therefore readily and fairly estimate the relative intrinsic beauty of the two sorts.

Is there any necessity or use for the horns upon cattle?—We need not go far out of our own neighborhoods to find cattle that have no horns, of as good qualities in all other respects as those produced and maintained under similar treatment, which wear them. It is found that when two races of cattle are bread together,—the one being with and the other without horns, the progeny takes after each sort in nearly an equal degree, and it has been shown with sufficient evidence, in a prize essay before the Highland Agricultural Society, that the male parent usually gives the preponderance to his own sort. Therefore it is in the power of farmers, by keeping hornless bulls, to breed cattle without horns if they choose to do so.

As to the *use* of horns upon cattle, they may, like prickles on gooseberries, serve for defence in a wild condition, yet be clearly objectionable in a state of cultivation:—I never

saw a cow make any *use* of her horns—I mean profitable use—unless to scratch her shoulder; and that she could have done as well by other means.

One plausible argument for horns is that they prevent the cattle from thrusting their heads through brush fences—whereby an opening is easily made for the whole body. But as a brush fence is only a temporary, an imperfect and an improper sort of a boundary, this consideration cannot be seriously entertained against the best of reasons on the other side.

It is thought by some that although horns may be of no use upon cows, yet upon working oxen they are of important benefit, in enabling them to hold back against the yoke in carrying a load down hill. Being myself experienced on this point, I have made many inquiries, and never heard this assertion from one who was in the habit of using such oxen. On the contrary, several persons who have worked oxen of this kind, have informed me that they can hold back their load in going down hill quite as well, *if not better*, than those which have horns. It appears that when the neck is bowed up close enough for the most advantageous draught, the size of the upper part of the head prevents its drawing through, and the animal will attain an increase of power to hold back the load, by bending his neck outward, in a way that he cannot, if there be a horn to press against the end of the yoke. It may be, also, that great pressure, and especially occasional concussion, of the yoke against the horn, cause pain in the head of the ox, so that he cannot resist so much as with his stout, thick-skinned and gristley neck. I would not maintain positively, however, that horns are of no use in holding back a load. I leave this part of the question still open, and only assert that in all other espects, there appears to be no need nor use for horns upon cattle, or at least upon cows.

The horns are a dead weight, carried at the end of a long lever, the neck, and therefore requiring a very considerable expenditure of muscular energy to sustain them: and accordingly animals bearing horns have stout and coarse necks, making an increase of offal in the carcase—a material objection with the butcher.

We must consider the frequent and great injuries done by hooking. Every one is but too familiar with such cases: cattle hook one another, and the weaker or more quiet, ever in dread of the stronger or more pugnacious animal, abandons its food at the approach of such a one: cattle hook sheep; the little sufferers are tossed about, to their great injury and sometimes destruction; the ewes are frequently made to cast their lambs prematurely, by their owners' choosing to gratify a morbid fancy in cultivating such pernicious, monstrous and frightful appendages: cattle hook colts, especially while weakly in their first winter, and that is the most dangerous time, as the skin and interior membrane are then most tender; and a slight touch from one of these ridiculous and formidable weapons is sufficient to cause a rupture and create a visible deformity, unfitting the animal for market, if not for use:—and last, not least, cattle frequently hook men, women and children.

Cattle with horns are subject to the horn-distemper—a common and troublesome disorder, from which those without horns are certainly exempt.

It is commonly maintained that a handsome pair of horns cause the animal to command a higher price from the butcher, by giving it a larger and more showy appearance. In the first place this is not exactly true; and in the next, if it were, the argument would be no better; for the advantage would be derived only from intrinsic dishonesty, in deceiving the eye of the purchaser. An inexperienced butcher—were such in the habit of buying cattle—might possibly be induced to pay above the value of an animal from such a cause; but the farmers who go to market expecting to cheat the butchers, commonly realize the truth of the proverb, "to go a wool gathering, and come home shorn."

In parts of England, and other old countries, where people are accustomed to both sorts of cattle, those with and without horns, a cow of the latter kind, of equal quality with one of the former, commands the higher price, on account of her being free from such dangerous appendages. In this country, where limited means prescribes the custom of winter-feeding all the live stock of the farm in one yard, the value of a hornless stock of cattle must be far greater.

As a last resort, some of the advocates of horns allege that hornless cattle do not grow so large, and are not so valuable for use, as others, the cows yielding less milk, and the oxen having less strength. These assertions may be classed with those of a run-away servant: the plea is always "bad vituals" or "bad treatment"—as he must allege something, however falsely, for an excuse. Let the horuless cattle be equally cultivated, and we may then judge whether they are in any respect inferior to the now more favored breeds.

Horned cattle are called *polled*, perhaps a corruption of *Poland;* they are also called *dodded* by northern Englishmen, and the Irish call them mulye, moilly or moillene, probably from a word in their language signifying hornless.

It is a law of nature that, in order to hit a mark, we must aim above it: thus, to gratify our self-love most intensely, we must task our energies with a higher purpose:—would the cattle-breeder, under a sense of duty, seek, so far as his limited means might serve, to establish and cultivate in his animals those qualities which his calm judgment must recognize as most worthy, he would soon find himself rewarded by unlooked-for profit and advantages. Let him aim in this, as in all pursuits, purely to be useful, and, as surely as the harvester reaps of the kind that was sowed, he may according to the immutable laws of nature, expect to receive manifold good for his labors.—*Spirit of the Times.* G. B.

DUTCH HUSBANDRY.

The foundation upon which the agriculture of Belgium rests, is the cultivation of clover, which seems indigenous, since none of the most ancient records notice its introduction, but speak of it as familiarly as of hay or oats. It is probably from this country, that the plant in question has been, though but recently, slowly, and hitherto only partially, introduced amongst the farmers of Germany, France, and great Britain. The clover in Flanders is sown in every sort of grain, in wheat, rye and winter barley, in the spring of the year, when the blades of those plants have acquired a growth of three or four inches; and with oats or summer barley at the same time with those seeds. It is also often sown with flax; and in general, the crops grown between those plants are more luxuriant than when sown with the cerealin. It frequently happens, when sown with flax, that clover yields a heavy crop a few months after it is sown: two still more abundant crops the next year, and sometimes even three; and if, as it occasionally happens, it be suffered to stand another year, it will yield one heavy crop, and afterwards good pasturage for cattle, till it is plowed up to receive the seed of wheat, which usually follows it. The original strength of the plants which yield such abundant nourishment, is undoubtedly due to the care taken in pulverizing the soil by frequent plowings and harrowings, to the careful extirpation of all weeds, and to the copious stores of manure laid on the ground, and its complete amalgamation with the soil; but the successive harvests which the plants yield are attributed, and with apparent probability, to the top dressings which are bestowed upon them. The top dressings administered to the young clover consist either of rotten yard-dung, lime, pigeons' dung, coal, or native turf-ashes, and are laid on as soon as the plants begin to extend themselves over the ground. Sometimes the plants are refreshed with liquid manure.

These manures, though administered to the clovers, as far as they can be obtained, are found far inferior in powers of fertility to that substance which is most generally used, and the effects of which, form the theme of the praises bestowed by all who have witnessed the Belgian husbandry. The turf ashes of Holland are sown by the hand on the clovers, in quantities varying from eighteen to twenty bushels to the English aker.

This small quantity produces a most surprising and almost magical effect. Within a few weeks after it is sown, a field where none, or but slight straggling plants were to be seen, becomes covered with a most abundant herbage. The parts of a field sown with these ashes, at the first mowing, show their efficacy in the most striking manner; the clover being frequently a foot higher on such parts, than on those where its sowing has been omitted. These ashes are found superior in efficacy to such as are made from the turf commonly used for fuel in Flanders, insomuch that one-third of

the quantity is deemed sufficient to afford a great productiveness.

These ashes are brought from Holland by the canals to Brussels, whence they are conveyed by land carriage to the different farms where they are applied. Long practice has so convinced the Flemish farmers of their benefit, that a common proverb in the patois of the country, may be thus translated: "He that buys ashes for his clover pays nothing, but he who does it not, pays double." They are frequently fetched from the canal by persons who have to carry them forty, or even fifty miles by land.

The abundance of the clover produced from the soil of Flanders, enables the cultivator to maintain a great number of cattle, principally cows, the dung of which is managed with an attention and care which are highly worthy of imitation, and contributes to maintain in a high state of fertility that soil which yields the most exhausting crops. "The farmers," says the Abbe Mann, "supply the want of straw in the following manner: The peat or sods which are cut from the heath, are placed in the stables and cow-stalls as litter for the cattle. The ground under them is dug to a certain depth, so as to admit a considerable quantity of these peat sods, and fresh ones are added as the feet of the cattle tread them down into less compass. These compose so many beds of manure, thoroughly impregnated with the urine and dung of the cattle. This mixture produces a compost of excellent quality for fertilizing ground where corn is to be sown."—*Encyclopedia Britanica.*

SUBSOIL-PLOWING---BOTTOM LANDS.

Mr. Bateman:—Is it a fact, as I heard stated at Columbus, that subsoil plowing does no manner of good to our alluvial bottom lands? If so, it should be generally known; and the sooner the better. Several of my neighbors contemplate purchasing subsoil plows for that description of lands. I may have committed an error in recommending the practice. I never used the subsoil plow; but from the results of very deep plowing, experiments, and observations, I had come to the conclusion that it would be beneficial on almost every description of soils, provided the land is not too wet.

It is very evident that the pressure of the plow, running at a uniform depth, for many years, forms a hard stratum, almost impervious to water, and impenetrable to the roots of plants. When breaking a clover ley a short time since, the ground wet and loamy, with water standing on numerous portions, shortly after heavy, protracted rains, I found the earth quite hard and dry at the depth of seven to nine inches, or just below where the plow usually ran.

A neighbor, who pays but little attention to agricultural science, on renting a farm adjoining me, complained that the ground was so hard, at a depth of four or five inches, that he could not plow below that depth without going entirely beneath that hard stratum, the former being too shallow, and the latter too hard on his team. I explained the difficulty; the original proprietor had skinned about three or four inches deep for some twenty-five years, forming a complete hard-pan.

Mr. J. Buffington, an extensive farmer, and quite an observing man, tells me that when using the bull-tongue for a make-shift subsoil plow, he had to put a heavy weight on the plow to make it penetrate the hard stratum below the furrow of the large plow. His land, as you know, is an alluvial deposit, abounding in vegetable matter, rich loam and sand—one of the deepest and richest alluvion soils on the Ohio river. The result of his experiment with the bull-tongue was favorable, giving a better yield than the balance of the field, where the large plow only was used.

When preparing a piece of pond land for a premium corn crop, a few years ago, I had occasion to fill up a temporary ditch that had been made the year previous, and it so happened that a row of corn was planted directly over the ditch, which gave it a decided advantage over any other row in the field—the entire product being at the rate of seventy-one bushels per aker—soil eighteen inches deep, rich muck, or vegetable deposit—clay subsoil.

The Rev. James Kelley, of this county, when digging a well, hauled sand from near the bottom, and filled up an old well that had been partially dug in his field by the original proprietor, after which he plowed the field and planted corn. The hills of corn planted in the pure sand, or nearly so, and directly over the old well, gave an extraordinary yield, producing ears twenty-two inches in length, at least six inches longer than I ever saw, and four longer than I ever heard or read of. Query.—Was this extraordinary result caused by some mineral or other nutritive qualities contained in the sand that came from many feet below the surface, or was it the action of the rains and atmosphere, dissolving and rendering the sand soluble, that it could be readily taken up by plants; or did the unusual depth of loose earth induce the roots of the corn to extend down to such a depth as to afford a constant and uniform supply of food and moisture, even temperature, and a great variety of dainties to feast upon?

Do not these results, after making liberal allowance for the fact that similar causes produce different effects under different circumstances, indicate that subsoiling will be beneficial even to our bottom lands, Mr. Thomas to the contrary, notwithstanding? H. N. Gillet.

Quaker Bottom, Lawrence Co., O, 1847.

HOW TO SUSTAIN AND IMPROVE THE QUALITY OF THE SOIL.

It has become an important inquiry among many of our farmers, how they shall fertilize such of their lands as are yielding large burthens of produce, which are taken off the premises for sale? Where remote from a large city, or places for supplying manures, this is a most important query, and one which they are highly interested in having answered correctly. It is absolutely certain, that farmers cannot annually rob their farms of large crops of grain, grass and roots, without either supplying manure to the soil, or losing rapidly in its fertility. We shall briefly indicate some of the most obvious resources for sustaining and improving the productiveness of the soil.

In the first place, not an ounce of animal manure should be suffered to be wasted, either liquid or solid. When not dropped on the feeding grounds, but around the stables and yards, it should be carefully saved and treasured up, where it cannot waste till used. This should be carefully and judiciously compounded with turf, or peat, or vegetable matter, so as to retain all its gasses, and not be permitted to drain away, and as soon as a proper time offers, it should be carried on to the fields and at once incorporated with the soil.

Another resource for many of our Eastern farmers, is the immense stores of peat and muck that are within their reach, and which tends greatly to benefitting a light sandy or loamy soil. All the animal matter, ashes, leached and unleached, should be carefully collected and applied to their land, and any other fertilizing substance which is to be found around the premises or can be collected at not too great an expense in the neighborhood.

But in many cases where the stock of cattle is not large, and the produce sold from the land is considerable, some more definite and certain means for sustaining a farm must be resorted to. With the most intelligent and systematic agriculturist, a proper rotation is adopted, which has been found by experience, to be adapted to the locality and products. By this is meant, a regular succession of crops on the same field through a series of years, which at their expiration, are again repeated. They are so arranged that two grain crops never follow each other, but are separated by root crops, grasses, &c. This system prevents the necessity of the soil yielding similar ingredients through two or more successive seasons, which it will seldom do to an extent sufficient to produce a good second crop. Time is required for it to decompose such of the ingredients which it contains, as are necessary to form what are called the inorganic portions to be taken up and appropriated by the plant. It also enables the cultivator to apply his green and putrescent manures to such crops as are most properly adapted to receive them. Such as corn and roots, and nearly all the objects of cultivation excepting the smaller grains.

The great object of rotation, however, is to give the land rest, as it is termed, when allowed to remain in grass or meadow, or refreshment when the clover or other fertilizing crops are plowed into the soil for manure. Such crops car-

ry back to the soil so much of its materials as they have taken from it, and in addition, important elements which they have abstracted from the atmosphere; and they are found by long practice, to be of great benefit in sustaining the fertility of the soil. Before passing on to a consideration connected with this particular point in the subject, of the highest importance, we would say, that a large share of the benefit to the land, derivable foom this practice, may be secured, by feeding the clover to such animals as will consume it on the ground. We say a part only, for all the food that goes to supply the respiration of the animal, which is no inconsiderable share, passing off again into the air is lost. Another part is stowed up in the augmented size of the animal, for it is certain that whatever weight it acquires while feeding it, is at the expense of the soil. If milch cows are pastured, the abstraction of valuable ingredients is still greater, as it has been found that pastures fed off for a long time by cows, have been robbed of large amounts of phosphate of lime, and other important matter. If horses are thus fed and taken on to the roads or elsewhere to work, it is evident that large quantities of this manure will thus be lost to the fields supplying the food.

Sheep are undoubtedly best adapted to the object we have in view. They remain stationary in the same fields where they feed, and return to them all they have taken save what escapes by respiration, evaporation, or is stored up by the wool or carcass. They also drop their manure on the highest and driest parts of the ground, where it is more beneficial than elsewhere; and we would most earnestly recommend the introduction of sheep husbandry on a more or less extended scale, to any farmer who practices the system of turning in crops for manure. The necessity for carrying them through the winter, will still further provide the materials for fertilization, by accumulating a store of manure from this source which without the sheep or a full equivalent in other stock, would not be thus secured.

But to recur to the subject of turning in crops. It is evident at a single glance that this system does not accomplish all that is necessary in sustaining the full measure of fertility of land subject to the cropping. In a rotation consisting of clover and wheat simply, we find that the wheat abstracts large amounts of phosphate of lime, potash, gypsum, salt, &c., &c., which if nothing be added to the soil, except the clover crop, will in a few years reduce any ordinary soil to so low a point, that it cannot yield profitable returns. The land may continue to yield for a long time; but it is evident that it is losing properties at every successive harvest, which must be supplied to it, or it will eventually be exhausted.

The true and only remedy for this, is, to ascertain by analysis, either of your own, or the well established researches of others, precisely what of the inorganic materials, such as are inherent in the soil, and not found to any appreciable extent in the atmosphere, are taken from the land by cropping or feeding, and not returned to it by straw, manure or offal of any kind, and return those materials to the land in such available shape as will enable future crops to supply themselves with all they require. This is indispensable to a succession of good crops and prolongs fertility, and no farmer is wise who neglects this practice for a single year, however seemingly well his adopted system may answer, which does not embrace the foregoing practice.

American Agriculturist.

AGRICULTURE OF MEXICO.

The people of Mexico seem to be far behind the general progress of civilization in the present age, and judging from the frequent and well written accounts recently received from authentic sources of the general state of the country, the customs, manners arts, &c., of the people, their advancement from primitive simplicity and ignorance is small; and although possessing one of the most favorable climates and generally productive soils for agriculture, it is a science by the inhabitants but little understood. It is said they are opposed to every change that can be introduced among them, which tends to their improvement in this respect, their farming utensils being of the rudest possible description; the same kind as those which were used by Cortez, at the conquest, in the 16th century, being used at this day in this country.

The principal agricultural productions of the greater portion of Mexico, are sugar, corn and cotton, the latter of which grows with luxuriance, the stalk being never killed by the cold winter, and it might be profitably cultivated, if there was a demand for it, which, however, is not the case, there being no mills or manufacturers for it in the country.

Corn grows well and yields abundantly. Two crops of it are made in a year, if the occupant of the ground is not too lazy to tend it. The first is planted in March and gathered in June and July. The second is planted in July or first of August, and gathered in November and December.

A writer from the army observes, "When we arrived at Monclova, the first of November, roasting ears and green fodder were abundant for ourselves and horses, from the second crop. This is the principal crop of the year, as it is less liable to injury from the vicissitudes of the weather than the first crop. The yield of corn is about fifty bushels to the aker in a tilled field. With good culture the quantity would be increased very considerably. The stalks grow to an enormous height. I have often seen them around Monclova so tall, that when sitting on my horse, which is full sixteen hands high, I could not reach the ears of corn.

It might not be profitable to plant corn in the fall; but there is a wide range from February to August, to put it into the ground and still have a good crop."

Sugar grows finely, and only needs a littie care and adequate machinery to enable the inhabitants to produce large quantities of it. It is not grained as with us, but when in syrup is run into molds resembling small loaves of loaf sugar, called *pilonces*, weighing about a pound.

Beyond Monclova, however, where the country becomes more elevated, sugar cannot be produced with much advantage.

Wheat may be raised in Mexico with great facility, and although in latitude 25° and 26°, several hundred miles farther south than Louisiana, where the grain cannot be produced, it is grown to perfection. So are apples and peaches. This is owing to the elevation of the country above the level of the sea.

At Cinegas, a village fifty miles west of Monclova, large quantities of excellent wheat are raised. There are two flourishing mills at Monclova, propelled by the stream which passes through the town. The flour, however, is inferior to that of this country, the best Mexican not being so fine or equal in appearance to that of the American article.

Oats or rye are not grown in Mexico; barley, however, grows finely, and might be produced in large quantities.

Nearly all descriptions of vegetables grow finely. With most kinds, a person may select his own time for planting. Fresh peas, lettuce, beans, &c., may be had the year round, by planting them repeatedly. Peas six inches in length, were growing at Parras, the 16th of December, which were planted for a winter crop. As the climate is so propitious, and all plants have to be reared by irrigation, a planter or gardener may select his own time for planting.

The same writer says, "Riding on the 10th of December, up the valley in which Parras is situated, I came to a field where they were sowing wheat. The sower was sowing the wheat broadcast on the unplowed ground. Twenty-three plows followed each other, on the same land, plowing the wheat in. A contrivance for a harrow leveled the ground after the plow. Every plow was drawn by two oxen. The plows were of the same pattern used by the Romans two thousand years since. They were made of the fork of a small tree, one prong of which answered for the beam, and was cut long enough to fasten the oxen to; the other prong was cut off about four feet long, and sharpened at the end, and a single stick fastened into the fork and projecting back, made the handle. This was the whole plow—lock, stock, and barrel. When a forked tree cannot be found, the short stick is morticed into the long one. The short prong was the coulter—the long one the beam. This was fastened by a raw-hide thong to the oxyoke, which, in turn, was fastened in front of, and to the horns of, the oxen, by another raw-hide thong. The handle was held by a peon, who was armed in the other hand with a long pole, with a sharp goad in the end of it, which he unsparingly

plunged into the oxen to quicken their speed, or to change their direction."

Pumpkins and a variety of squashes, grow abundantly and are much used. As a general thing, very few vegetables are used by the Mexicans.

Irish potatoes cannot, or at least *have not* been grown in many parts of Mexico, although we know not why in some parts of the country they might not be introduced to advantage. All that were discovered by the troops in their advances through the country were a few found at Saltillo, and they were the size of marbles and pigeons' eggs, and of but little value to eat.*

Oranges grow very beautifully and with luxuriance in every part of Mexico, although those in the cooler and northern portions of the country are all of the same kind. Sweet oranges are cultivated farther south, and in lower plains and valleys, near the sea coast.—*Farmer and Mechanic.*

REMARKS ON TRANSPLANTING FRUIT TREES IN THE SPRING AND AUTUMN.

By S. G. Perkins, Esq., Boston, Mass.

First prepare the ground where they are to be put, so that water will not remain on or near the roots. Examine the roots of the tree before planting, and *cut out* all rotten or defective roots, and *cut in* (shorted) all that are bruised or otherwise injured, to sound wood above the wound. Be careful not to plant too deep, as this may be fatal to your tree.

If the tree does not put out shoots in the spring, at the usual time, or as soon as others do that were planted at the same time, give it one good watering at the roots, and no more while it remains in a dormant state; but if the bark remains fresh, or does not turn black, *wash the head and body* with a watering pot or syringe every evening at sundown, until it begins to shoot or grow, when you may cease watering the head, and water the roots if required. I have had trees to remain until the last of July without putting out a leaf or shoot of any kind, and after that become as fine specimens as any in my garden.

No manure should be put to fruit trees, except it be a little vegetable manure, quite rotten, and that mixed with the earth that is to cover the roots. The question is frequently asked whether it be best to plant fruit trees in the spring or autumn. This, in this latitude, must depend on the *soil* into which they are to be put. If the soil be a wet, clayey one, it is best to plant in the spring; but if it be a light, gravelly soil, the autumn is preferable, because you gain four or five weeks in the growth of your plant in the spring.

If water be allowed to remain about the roots of trees that are recently planted, and are not growing, it will probably rot them by becoming stagnant and putrid. Trees should be planted therefore, so that the water will run over and off the roots, which is all they require to afford them nourishment.

Watering the head and body of a tree that is tardy in putting forth its shoots, is the safest, and indeed the only sure mode of bringing them out, while a continued watering of the roots is almost sure destruction to them.

Trees planted on a south wall or fence, that do not put out shoots in due season, should be covered for several hours when the sun is out, if the weather be warm. The leaves may be considered a sort of suction pump, which draws up the moisture from its roots and produces its increased growth, whereas a tree without leaves, and that is not already attached to the ground, has no means of carrying off the moisture from the roots. For example, of two branches of equal size and weight, the one with leaves and the other without them, are placed in vessels containing an equal quantity of water, and exposed to the sun, the one having leaves will take up the greater part of the liquid, while the other will consume comparatively little.

Some ten years ago, I imported from Paris 210 pear trees on quince stocks, whose roots, on their arrival, I found to be entirely black and dead. I shaved off with a drawing knife all the roots down to the stump. These I planted in trenches, tying them to cross-bars to keep them firm, and then filled up the trench with good soil. The heads and bodies of these trees were regularly washed in dry weather until they began to sprout, which most of them did in abundance during the summer, and I finally saved out of the whole number, 174, which became as well rooted and as good trees as any in my garden.

This has happened more than once. Three or four years ago, I imported among other trees, twenty plum trees, from six to seven feet high, the heads of which had been budded the previous year in France. These buds had grown from nine to twelve inches long, and were perfectly fresh when they arrived; but the roots on examination were found entirely dead. Two of these I gave away. One was good for nothing, and the other seventeen I planted in my garden, having cut out all the roots that had fibres, they being entirely dead. One of my men said I might as well plant my walking-stick. Sixteen of these are now flourishing trees, well grown and well rooted, new roots being induced by means of washing the upper part of the tree.

S. G. Perkins.

Remarks.—The foregoing will please such of our readers as like plain, sensible advice, from a thoroughly practical man. We have ourselves seen with great surprise and satisfaction the trees referred to as having been so successfully transplanted by Mr. Perkins, under what were the most unfavorable circumstances. The great advantage of the mode he practices, of *watering the bark*, and not watering the roots of a tree, in a half dormant state, our correspondent thoroughly convinced us of in his own garden. Our readers are solicited to put in practice the invaluable advice he gives them. There is no doubt, that half the trees that die annually from the ignorance of transplanters, perish from a mistaken notion of deluging their roots with water daily, when their fibres are so feeble as to dread it as much as a patient afflicted with the hydrophobia. — *Editor Downing's Horticulturist.*

HORSE POWER.

Definition of Horse Power. — Horse power, as a general mechanical term, is synonymous with what Whewell has called *Laboring Force.* The work to be done may be performed by various mechanical agents — by men, by horses, by water, by steam, or by wind. In all these cases, laboring force is generated and applied; motion is produced by the continued exertion of pressure. Laboring Force is, then, something more than mere pressure; it is something useful, something which produces an effect that can be measured.*

Unit of Laboring Force. — To determine, therefore, the values of laboring force of various kinds, the *unit* or *common measure* of laboring force must be established, for which we may take a given weight raised through a given space. *One pound raised through one foot*, is the most general and convenient measure, and will be adopted in this article as the *dynamical unit* of laboring force. For the sake of abbreviation we may read it *dynam*, as suggested by Whewell.

The laboring force varies proportionally as the resistance which is to be overcome.

And, the laboring force varies proportionally as the space through which the resistance has to be overcome.

Illustrations of Laboring Force.—It is clear, then, that to raise 6 pounds through 10 feet, and to raise 10 pounds thro' 6 feet, equal amounts of laboring force are required; as in both cases the latter is equal to 6×10 or 60 dynams. It is also the same thing as regards expenditure of force, whether 1000 be raised through 1 foot, or 1 pound be raised through 1000 feet. If again, we have weights amounting

* These, probably, were of spontaneous growth, as Mr. Gregg (who resided nine years in New Mexico) states in his "Commerce of the Prairies," that he found such in the valleys of that country.

* "In our towns in which large manufactories exist, such establishments often generate by their machinery more laboring force than they need; and the surplus [transferred by an axis, or in some other way, to a distance) is hired by other persons, and employed for the purposes of the most various kinds of work. In such towns, we often read advertisements of power to be disposed of to a large amount. The *power* here spoken of is laboring force."—*Whewell: Mechanics' of Engineering.*

to 100 pounds at the top of building 100 feet high, these weights, if deprived of support, have the power of descending through 100 feet, either in one mass or separately. They may, therefore, by the intervention of machinery, be made to raise certain weights through corresponding heights. On a general view, it is obvious that the whole amount of work thus done cannot exceed 100 × 100, or 10,000 dynams; and it may be expended in raising either 10,000 pounds 1 foot high, or 1 pound 10,000 feet high, or 10 pounds 1000 feet high, and so on, the corresponding weight and height, being always such that their product is equal to 10,000, the laboring force.

The laboring force exerted by a horse which draws a load of 6 cwt. over 2 miles level road, is the same with that of a horse which draws 4 cwt. over three miles. To prove this it is not necessary, as a preparatory step, to reduce the hundredweights and miles into pounds and feet, as the exertion of a force of 1 cwt. through the space of 1 mile, may, if convenient, be chosen for the unit of laboring force. On this supposition then, the laboring force is in the first instance represented by 6 × 2, or 12. In the second instance, it is 4 × 3, which is likewise 12: showing that the laboring force is the same in both cases. This equality may perhaps be rendered more obvious thus: the effect of 6 cwt. drawn over 2 miles is the same as that of 12 cwt. over 1 mile; for whether 2 horses draw each 6 cwt. over the same mile, or draw these over 2 successive miles, the same amount of effect is evidently produced. By exactly the same reasoning, it is evident that the effect of 4 cwt. drawn over 3 miles, is the same as that of 12 cwt. over 1 mile. Both of these effects being therefore equal to 12 cwt. drawn over 1 mile, they must be equal to one another.

Farmer and Mechanic.

ALPACA, OR PERUVIAN SHEEP.

Some have thought that we already have all the domestic animals among us that could be made to flourish. This is not the case. There are many more, in different parts of the world, that might be made very profitable if brought among us and taken proper care of. We mean many more that have been domesticated in other countries. There are undoubtedly many more now in a wild state, which, if caught and tamed and propagated for a series of years would become a valuable acquisition to us. Among the animals already in a highly domesticated state, and which would, no doubt, live and do well in Maine, is the Alpaca of Peru. We have several times, heretofore, called the attention of our readers to this animal, and intend to reiterate it as long as it will be necessary. Nearly twenty years ago we received some of the Alpaca wool from South America, specimens of which we distributed among our friends, and also sent a specimen to the Patent Office with a view of calling attention to the subject. Within a year or two considerable attention has been paid to the question of importing this animal into New York. It was proposed to get up a joint stock company, and expend ten thousand dollars in the enterprise. Whether all the stock has been taken up we do not know. Several individuals from Vermont are endeavoring to import some of them from Peru.

The proprietors of the New York Farmer and Mechanic, published an interesting pamphlet on the Alpaca, year before last, and more recently, a writer in the American Agriculturist has had several numbers in that valuable work. We are indebted to that writer for the following facts in regard to its introduction into England. Some of our readers may think it visionary to recommend the introduction of the Alpaca into Maine. We have no doubt it will flourish well here. It is a native of the high snowy mountains of South America, and its home is amid a temperature similar to ours. If it can be successfully transported into the moist climate of England, and reared with but little trouble, it will assuredly do well in Maine, whose climate, soil and hills, are more congenial to its nature and habits.

It appears by the writer in the Agriculturist above mentioned, that in 1817, B. Bennet, of Berks, England, received a pair of Alpacas, fed them as he did his sheep with hay and turneps. From this pair he raised a flock of fifteen.

Viscount Ingestrie imported a pair from Valparaiso. They stood the voyage well, and he bred three or four lambs from them. Thomas Stevenson, of Obon, Argyleshire, had a dozen shipped from Peru for him, all died but four. He fed them as he did his highland cattle, and found that they did well. They grew to weigh about 175 pounds. These never bred. Several other gentlemen imported the Alpaca. These animals were obtained principally as curiosities, and but little systematic attempt was made to make the breeding of them a business.

An attempt has been made, hitherto with good success, to introduce this animal into the mountainous parts of Ireland. Robert Bell, Esq., of Vilia House, near Listowel, in the county of Kerry, has a small herd which he imported, and which fare as his cattle and sheep do, and which appear to be as hearty as the native sheep of that country

Facts of this kind are valuable to those who may be desirous of embarking in this new enterprise. If some of our merchants or seamen who may go to Peru, would be at a little expense to bring some of these animals into Maine, we have no doubt they would do well and become a valuable addition to our stock of domestic animals.—*Maine Farmer.*

HINTS UPON HOGS.

A long time ago, the wise man of the East inculcated the doctrine that there was a time and a season for every thing: and we suppose it was in accordance with this principle that the *swine fever* or rather the *Berkshire fever*, had its rise, progress and decline. Excitements in the community, like excitements in the corporeal system, are generally succeeded by a corresponding degree of depression; and during this depressed state, the judgment seems to suffer so much, that it pronounces the thing which it once thought invaluable, now worthless. The Berkshire mania has gone thro' all these stages, and is now *below zero*. Common sense, however, dictates a different view of things. That the Berkshire breed of swine were extolled too high, is true: but they ought not to be so wholly discarded as they seem to be now. They were superior in form, hearty and thrifty. The objection to them, at present, is, their color, which is black—their size, which is pronounced to be too small, and the texture of their flesh, which is said to have too much lean. In regard to the first—we would say, that it would not be difficult to change the color by crossing, and so of the second. In regard to the third—for a hog to be used as fresh meat, or for bacon, they have not too much lean. If it is desired to have what is called clear pork, for barrelling, perhaps another variety of swine would be preferable in some respects.

A cross of the Berkshire and the Bedford hog, or what is sometimes called the Woburn, makes a very fine animal. It gives length of size, and rather more depth of chine, but not quite so much breadth of back and quarters as the full blood Berkshires. Of course there will be less size of muscle, and when the swine is fatted completely there is more fat, or clear pork, in proportion to the lean part. The Maccay breed were an excellent breed for those who prefer *clear* fat. Their length of side and depth of carcass were well calculated to produce a larger proportion of this than some other breeds that presented large muscular quarters.

One reason for the decline of the *pig interest*, is the low price which the slaughtered hog and pork has brought in our markets for a year or two past. There is a change coming over this branch of business, as well as many other branches connected with the farm, which will have a tendency to bring up the price of pork in the market. The change in the British tariff, whereby American produce, and American beef and pork is admitted at a very moderate duty, cannot fail to increase the demand for corn and for pork. In such a case, where not only material which makes the pork is in great demand, but also the pork itself, the price must increase. He, therefore, who has a good breed of hogs need not fear of meeting with a loss, and he who has not a good breed, need not hesitate to obtain an improved one, for fear of losing his time, money and trouble.

The hog is an animal that requires more care and attention to keep pure in breed than any other. There are two reasons for this. 1st, their being so very prolific, and 2d, their not being allowed to live so long as other animals

Where there are so many produced at a birth, there are always shades of difference, which, by being mixed in without much care with others, in a few generations makes essential changes. Farmers, generally, do not like to keep a hog more than a year and a half or two years before they slaughter him. Not so with the horse or cow family. If the best breeders among swine were kept solely for that purpose, until the powers of nature became exhausted, we should not so often hear farmers say, "my breed of swine has run out." We are aware that it seems to be good economy to turn a swine into cash as soon as he comes to maturity; but it may, nevertheless, be seriously questioned, whether the loss by deterioration of breed does not more than counterbalance the seeming saving that is made by slaughtering early. *Maine Farmer.*

ORIGIN OF THE BALDWIN APPLE.—This fine fruit, so much esteemed where it is known, originated in Wilmington, Mass. Its history was given somewhat in detail, several years ago, in the *New England Farmer;* but an abridged and somewhat improved *edition* was given in the *Horticulturist* for January last, by B. V. French, Esq., Vice President of the Mass. Hort. Society.

"The original tree," says Mr. F., "grew on the farm of Mr. Butters, and was known for a time as the Butters apple. This tree was frequented and pecked by the woodpeckers, and Mr. Butters called it the *wood-pecker apple.* This fruit must have been known about a century. From Col. Baldwin, of Woburn, and his family, who introduced it largely into public notice, it took the name of 'Baldwin,' by which the fruit is now everywhere known. I am informed that Col. Samuel Jaques, of Somerville, eminent as an agriculturist, breeder, and horticulturist, as well as a public benefactor of his age, now owns that part of the original Baldwin tree grew, and has placed a monument on the site where it once flourished."

The principal facts as above given, we have more than once learned from Col. Jaques himself. In a letter lately received from him, he says—"Whenever I go to the spot on my farm where this memorable tree once stood, I am carried back in agreeable recollection, to 1784, when I went with Col. Loammi Baldwin, of Woburn, and my father, and saw them take scions from this tree. When Col. Baldwin's scions bore fruit, he sent some barrels of it to a particular friend in England, where it created so much excitement that letters came to this country inquiring for the *'Baldwin pippin,'* as it was there called; hence the name Baldwin apple." *Albany Cult.*

BLIGHT IN APPLE TREES.—Mr. V. W. Smith, of Syracuse, has left with us several small branches of apple trees, which are affected with a malady similar to what is called *fireblight* in pear trees. The blight attacks the trees in a singular manner. In some instances, a small branch at the end of a limb remains green and flourishing, while all the rest appears to be totally dead, the bark discolored, and adhering to the wood. We have not been able to find any insect, nor the ravages of one, which seems to have had any connection with the cause of the disease. Mr. S. informs us that nearly all the apple trees in the vicinity of Syracuse are very seriously affected in the manner above described. If any discoveries should be made in relation to its cause or prevention, we should be glad to give them publicity.

Since the above was written, we have examined some apple trees in this vicinity which appear to be affected in the same manner as those above mentioned. The orchard of Mr. Prentice, at Mount Hope, is very seriously attacked, and a large portion of the trees will lose their fruit. Many of the limbs are already dead, and many of the trees will ultimately die.

In fact but few that are not more or less diseased, and fears are reasonably entertained that all may be much injured. The disease seems to be identical with the fire-blight of pear trees, which disease has nearly destroyed all Mr. P's fine pears.—*Alb. Cult.*

GREEN PEA SOUP.—Dried peas, either for soup or for eating whole, soaked until they begin to vegetate, say about two days, will taste nearly as well as when green.

ROOT-GRAFTING APPLE TREES.

BY A FLUSHING PROPAGATOR.

Allow me to give to the public, through your valuable journal, some account of the quickest and the easiest mode of raising apple trees by root-grafting as I am desirous of encouraging young nurserymen and propagators in the raising of apple trees.

1st. In the fall, all the seedling apple stocks intended for grafting should be carefully taken up, and placed in a heap in a cellar, and then the roots taken off and carefully preserved by mixing them with sand: all the scions intended for use should be cut before the frosty weather sets in, and carefully placed in sand or earth. Grafting may be commenced as early as convenient; it will not matter if you begin as early as November, and work at it through the winter till March, provided the roots, after being grafted, are healed into boxes, and placed in the cellar till spring.

2d. All the roots, as you want them, should be washed, and then cut into pieces about four inches long or less, according to their strength, and placed regularly on a table or bench, and the scions cut about three inches long, and placed in a heap near at hand; and then begin to graft. The system which I have always tried, and which succeeded best, is tongue-grafting, making a nice fit with the barks, and then bind slightly with muslin strings. These strings are made by mixing six ounces of Burgundy pitch, six do. of tallow, three do. of beeswax. These should be melted, and then put on to muslin with a brush. It may then be cut into strips nine inches long, and an inch in breadth. This is better than matting, as it does not require to be cut off. The boxes should be made twelve inches deep, two feet in width, and three feet in length, and filled with fine sifted mold or sand.

Trees grafted by this system are the best, grow very thrifty, and are generally fit for sale in two years, if placed in good soil. A man accustomed to grafting can do from nine to twelve hundred a day very easily, and tie his own strings. Weak growing kinds generally grow stout and remarkably straight by this plan, and as it can be done in the winter, when nothing else of consequence can be done, there is a great saving of time.

In the spring, the boxes should be taken out of the cellar, and placed in some frames, pits, or the green-house, to start them into growth: or, if none of these are at hand, place them out of doors in a warm situation, as it is necessary to start them two or three inches before planting out; they will not be injured if you do not plant them out till the middle of May. Such has been my practice of root-grafting, and, if properly done, it will never fail to succeed.

Flushing, L. I., June, '47. *Hovey's Magazine.*

WHAT YOU WILL FIND IN THE FARMER.

For our own reference, as well as far our readers, we intend to lay down a sort of synopsis of what you will find in the Farmer, and as we are of but few words, we will proceed to the business.

When you hear of a man who speaks in a disrespectful way of the farmer or his interests, when he has no business himself, just look to see him used up in the Farmer.

When you hear of a man who is afraid of the honest dust on a farmer's clothes, you may expect to see him noticed in the Farmer.

When you hear of a man who owns a fine farm, and is letting it go to ruin while the Sheriff is taking it away by peace-meal, you will be sure he will find some advice in the Farmer.

When you hear of a man, who is building large and extensive houses, while he neglects to find shelter for his stock, you will find he will catch jesse in the Farmer.

When you hear of a farmer who is neglecting his fences and stock, to spend his time at the court-house or grog-shop, you may look to see his name in the Farmer.

When you hear of a farmer, who has a fine farm, and is continually exhausting and not enriching it, by heavy exhausting crops, you will find something like the following for him in the Farmer:—"Always taking out of the money drawer, and never putting in, will soon make it empty."

When you hear of a man who is in favor of a bad horse, a

a bad ox, a bad sheep or a bad hog, in preference to a good one, he will be sure to be abused by the Farmer.

When you hear of a man who is able to ornament his farm with shrubbery and flowers, but prefers going about with his hands in his pockets to doing it, you will find he will get a severe drubbing in the Farmer.

When you find a man neglecting his fruit and his fruit trees, while he slumbers in the morning, you'll find he'll get waked up in the Farmer.

When you see a man who is letting the weeds and brush grow in his fence corners, and is slovenly about his yards, while he is hunting or idle, he will also get a rub in the Farmer.

When you hear of a man who uses his wood green instead of dry, you will find he is doing wrong, by the Farmer.

When you hear of a man cutting all the trees from around his house, and letting the hogs run to his door, and the chickens having full scope in the kitchen, you will find that man has no taste, by the Farmer.

When you hear of a man building his house in a mean and obscure place on his premises, when he might find a better, you will find some words devoted to him in the Farmer.

When you hear of a man who builds his stables, so that he gets the stench of the yards at his house or on the public highway, you may be sure he is not fond of *sweet things*, by the Farmer.

When you hear of a man who has a pond of stagnant water upon his farm, when he might easily drain it off, you will find a small dose for him in the Farmer.

When we hear of a man who does not send his children to school and is against supporting schools in his neighborhood, you will find he will get a lesson from the Farmer.

When you hear of a man who says he is not in favor of book-farming, and says he knows more now than he can be learnt to apply, you will find he will be convinced of his mistake by reading the Farmer.

When you hear of a man who lets his stock pester his neighbors, and is continually at law, while his wife and children are in rags, you will find him rebuked in the Farmer.

When you hear of a man saying that he has not time to read, or cannot pay a dollar a year for a good paper, you will find that man is to be pitied by the Farmer.

When you hear of a man who is wasting his straw that might make manure, or that neglects his compost heaps, you will find something to his advantage in the Farmer.

When you hear of a man who neglects to raise his vegetables by not having a good garden, while he purchases them elsewhere, you will find that he is losing money, by the Farmer.

When you hear of a man who says "go boys" instead of "come boys," you may look to see his picture in the Farmer.

When you hear of a man making or bringing bad produce to market when he might make and bring that which is good, you will find the law laid down for him in the Farmer.

And when you hear of a lady who is in the habit of making bad butter, bad cheese, or is sloven in her house work, though we will hate to do it, still you will find she will be punished in the Farmer.

When you hear of stock getting sick, you will be sure to find a cure in the Farmer.

When you hear of crops being destroyed you will generally find the cause in the Farmer.

When you hear of an improvement in agricultural implements, or a new or improved kind of fruit, you will find it recorded in the Farmer.

When you hear of a man who has a fine farm and keeps it in style, and gets a premium at the fair, you will find he will get puffed in the Farmer.

When you hear of a man who gets the premium for the best horse, the finest breed of cattle, and the most profitable hogs, or the finest improved sheep, you will find that he will be well spoken of by the Farmer.

When you hear of a man who is living on his farm without any wife, and without any reasonable cause for it, you will find he will get a blowing up in the Farmer.

When you hear of a man who can write, you may look for his communication in the Farmer.

When you hear of a man who don't take our paper, you will find that man is behind the age, in the Farmer.

These and many other things besides, you may *look for* if you *don't find* them in the Farmer.—*Missouri Farmer.*

HOW TO MAKE GOOD VINEGAR.

Common household Vinegar is usually obtained from wine, cider, beer, malt, fermented sugar, molasses, &c., the alcohol contained in them being converted into acetic acid by the absorption of oxygen, which is more or less intermixed with gum, sugar, and other vegetable matter. The principal requisites necessary to form any of these substances into good vinegar, are, contact with the air of any temperature between 70° and 80° F., the presence of alcohol, and the addition of some extraneous vegetable matter to promote the acetous fermentation.

Pure, unadulterated cider vinegar, reduced to a proper strength, is considered the best for general use in this country, and is always attainable by those who possess apple orchards, or cider of their own, and should be more abundantly supplied in market than it is. An excellent article may be made by putting away good strong cider without adding any thing to it, in one or more substantial casks in a warm place under cover, with the bung holes open, but covered with fine gauze, in order to admit the air, and there let it gradually undergo the necessary fermentation. If the casks are frequently shaken, and their contents occasionally drawn from one to another, the process is hastened. When fit for use, a small portion of the vinegar should be drawn from each cask, and its place supplied with a like quantity of cider that is fresh. In large establishments the operation may be carried on with a number of casks at once, worked in pairs, by commencing with one filled with good vinegar and another of the same capacity filled with pure cider.—First draw out a quart of a gallon, as may be, from the cask containing the vinegar, and replace it with an equal quantity from that which contains the cider. Thus, by continuing the operation daily, for some weeks, one or more hogsheads, of good, wholesome vinegar may be formed, without the addition of any foreign or injurious materials. When sufficiently sharp, the vinegar should be drawn off into smaller casks or bottles, tightly bunged or corked, and put away in a moderately cool place for use.

A superior vinegar may be made by filling a barrel one-third full, with strong cider, reduced by freezing, and letting it stand with the bung holes slightly covered for at least nine months. If the fermentation does not proceed with sufficient rapidity, a few quarts of the liquor may be withdrawn, boiled for a short time, skimmed, and then poured back into the cask.

A vinegar of good strength may be produced by putting 6 lbs. of sour yeast made of leaven and rye-flour, mixed with hot water, into a cask containing 100 gallons of good cider, agitating the whole with a stick, and then let it remain for six or eight days. It is necessary to draw off this vinegar and bung it up close, as soon as it is made, otherwise it will quickly grow vapid or flat.

Those who have not cider, or grape-juice, at their command, can make a tolerable good vinegar, by any of the following directions, which we copy from Cooley's "Cyclopædia of 6000 Practical Receipts," but it will be less pure and more liable to spoil, than that made from cider, malt, or wine:

Sugar Vinegar.—Add brown sugar, 4 lbs., to each gallon of water, and proceed as with cider.

German Household Vinegar.—Take soft water 7½ gallons; honey or brown sugar, 2 lbs.; cream of tartar, 2 oz.; corn-spirit 1 gallon. Ferment as above.

To prevent mouldiness in vinegar, the following methods have been proposed:—Concentrate by freezing, or by distillation; put up the vinegar in bottles and keep them well-worked; or boil it in a well-tinned kettle for a quarter of an hour; put it in uncorked bottles; place them in a kettle of water with their necks above the surface, and let them boil for an hour; then take them out, cork them up, and the vinegar will keep for several years without growing mouldy or turbid.—*American Agricult.*

ON INVERTING POSTS.—It is firmly believed by many that posts, when set in the earth, should be inverted. The reason assigned in support of this belief, is that they will thereby be much more durable. If it be really true that the same posts simply by being set with the top *downwards*, will last considerably longer, it is certainly of great moment that the fact become well and generally known. In order to convince the public mind that such is the case, accounts of several experiments, all of which so far as I have seen or heard, concur in the support of this conviction. Notwithstanding the number seems to me sufficiently large to compel all reasonable doubts to give way under their accumulating weight, still I will venture to give publicity to an additional experiment, tried by a gentleman who is now a resident of this township. In a conversation with him a few days since, he informed me that some twenty years ago, when residing in the town of Ashfield, Mass., he set a couple of gate posts, both of which were taken from the but of a chestnut tree, which was perfectly sound. One of them was, and the other was not inverted. At the expiration of twelve years, both were taken up, when he found that of the one inverted, only the alburnum or sappy part was decayed, while the other had nearly rotted off.—*Mich. Farmer.*

ALDERNEY COWS.—The Alderney Cows, so celebrated for the richness and quanty of their milk, are natives of the little island of Jersey. From that small district, it is said, 4,000 cows are annually exported to England, to supply the lovers of rich milk and cream with a luxury such as none but the Arderney can yield in such perfection.

But few of these cows have yet been imported into this country, the largest herd being owned by Roswell L. Colt, Esq., of Patterson, New Jersey. Mr. C., it is said, has recently sent out an order for a cow and bull of the very purest of the Alderney blood, which, together with those already on hand, will enable him gradually to increase the stock in this country.

CATCHING RATS.

Governments have offered bounties for the destruction of bears, wolves, and foxes, while the rat, the most injurious to the interests of man of all quadrupeds, is allowed to pursue his marauding career entirely independent of legislation.

It is not a very easy matter to extirpate rats; they are endowed with more sagacity than they generally have credit for, and under the promptings of self-preservation, often elude plans which are laid for their capture. A friend of the writer, quite distinguished as a successful hunter, has frequently been heard to make the remark, that he could catch a fox easier than he could catch a common house-rat.

A writer in the Ayreshire (Scotland) *Agriculturist*, appears to understand the business of rat-trapping, and gives some directions on the subject which we think worthy of remembering. He recommends the round and square wire traps; and in order to take the rats, he states that "it is in the first place necessary to remove their suspicions, to get the better of their cunning; in short, *to throw them off their guard.*" He thinks this can be most effectually done by "*fastening the doors* of the trap *open* for a night or two, so that the rats may have free ingress and egress." He supposes that rats, as well as any other animals, possess the power of conveying intelligence to each other, and when one has found a delicious morsel, he will convey the intelligence to his comrades. As bait, he prefers bacon, fried till it is somewhat burned, with plenty of grease. He recommends that the trap be visited early in the morning, for if the rats remain long on the traps it will be the means of frightening the others so that it will be difficult to catch them.

"*Poison,*" he says, "can only be resorted to in such places as are inaccessible to any other living animals. It can safely be applied in sewers, drains, and such-like places, and should always be combined with some savory fry. In this instance, again, *feed* for a night or two ere mingling the poison in the food—you will thus lull suspicion and commit greater havoc. I may here observe that common bottle corks, cut in very thin slices, will kill rats, and will be greedily devoured. *Phosphorus* has been recommended, and so has broken glass. For my own part, I detest poisoning, and prefer the trapping system. Either when using trap or poison, you will find your success immeasurably enhanced by using a few drops of the following mixture upon the mess used as bait. It is the preparation generally employed by professional rat-catchers, and is that to which they have imputed such wonderful effects—such as decoying the vermin into one spot, and there destroying them wholesale. I must, however, confess that I have both sought and met with some of the most talented and successful professors of the art of rat-catching, without witnessing such miracles. I once, however, did *see* a tame rat, (in Edinburg, at the back of the Castle, in the year 1837,) which, having been previously smeared with a certain composition—that which I am about to describe—was let loose in a vault, and in less than half an hour returned followed by some half dozen others, which seemed so enamoured of the decoy, or of the scent that hung about him, that they suffered themselves to be taken alive in the rat-catcher's hands, without ever offering to bite. The preparation I purchased from an eminent practitioner in rat-catching. It is as follows:

Powdered Assafœtida,	½ grain,
Essential Oil of Rhodium,	3 drachms,
Essential Oil of Lavender,	1 scruple,
Oil of Anniseed,	1 drachm.

Albany Cultivator.

RULES FOR MILKING.

Milking cows is generally performed in Maine, wherever I have been, by men or boys. The women, however, do it, or assist in doing it, on some farms; and on most all of them, in busy seasons.

Having milked, more or less, every season since I was a "wee-bit" boy, and having seen it done so poorly as to injure the cow, I propose to give a few rules for it, which I have learned from my own and others' experience. They are as follows:

1. Have a good stool to sit on.
2. Have your finger nails pared short and smooth.
3. Sit down and clean the bag, and wet the teets with the first stream of milk.
4. *Then* sit the pail under, and milk as fast as you can conveniently—the faster the better. A cow will give more milk when milked fast than when milked slow.
5. Milk as though the teets were full to the last, otherwise it makes them long to "strip" in a little while.
6. Never scold or strike a cow for running about the yard or kicking. It generally does more hurt than good.
7. If she runs about, have patience—talk kindly to her—and tie her up, as a last resort, till she is not afraid.
8. If she kicks, sit forward far enough for your knee to come forward of her leg, and she cannot easily hurt you or spill the milk.
9. If she switches you with her tail, in "fly time," fasten it by parting the hair and tying it round her leg. Use a string, if the hair is not long enough.
10. If she holds up her milk, *butt with your hands.* What else does a calf *butt* for *but* to make the mother give the milk down?

PICKLED BEET.

PROPAGATION OF ROSES FROM CUTTINGS.—We received the following instructions for the cultivation of roses by cuttings, from our esteemed friend, the Rev. John Bachman, D. D., of Charleston, who is as well known as a horticulturist, as he is celebrated as a naturalist:

"After the first severe frost in November or December, prepare a bed in a frame, the size of a window sash—three feet by four feet will answer—the earth must not be manured. It is not a hot-bed, but composed of common garden soil. In this make trenches one and a half inches deep, four inches apart. Then cut your branches into cuttings containing three or four eyes; the lower part cut smooth just below an eye—one or two eyes remaining above the earth, the cuttings are now laid or set nearly upright, in the small trench, and may be put within an inch of each other. The trench must be filled up with common sand, such as is used for scouring, &c. The object of the sand is to prevent too much moisture accumulating round the plant. The

ground is now gently watered, to fill every little opening around the stems. The glass is now put on the frame — Nothing more is done, and no watering for five weeks, when the buds will be found putting out—an occasional gentle watering is then given, and the glass raised during the day for an inch, to admit air—closed down in cold nights. Towards spring the buds will have shot out three inches, and the roots formed. Then they can be transplanted in good rich soils. Well rotted manure and moisture add much to the growth. They bloom the first spring."

MUNIFICENT DONATION.—Hon. Abbott Lawrence, of Boston, has given *Fifty Thousand Dollars* to Harward College, to be devoted to education in relation to the practical sciences. Mr. Lawrence's object as stated in a letter to the Treasurer of the University, appears to be to secure the establishment of three permanent Professorships, viz: "one of Chemistry, one of Engineering in its various branches, and one of Geology." By the appointment of Mr. Horsford as Rumford Professor, the department of chemistry is provided for, and it is Mr. L's design, by this generous donation, to place the three Professorships on an equal pecuniary footing. We are pleased to learn that the corporation has taken measures to carry into immediate effect the object of the donor, whose name, by this splendid act, will be held by posterity in grateful remembrance.

Did space permit, we should be glad to copy the whole of Mr. Lawrence's very interesting and instructive letter; but at present we can only give place to the following extract, in which some of the defects of our present system of education are strikingly shown:

"For an early classical education we have our schools and colleges. From thence the special schools of Theology, Law, Medicine, and Surgery, receive the young men destined to those professions; and those who look to commerce as their employment, pass to the counting-house or the ocean. But where can we send those who intend to devote themselves to the practical applications of science? How educate our engineers, our miners, machinists and mechanics? Our country abounds in men of action. Hard hands are ready to work upon our hard materials; and where shall sagacious heads be taught to direct those hands?

"Inventive men laboriously re-invent what has been produced before. Ignorant men fight against the laws of nature with a vain energy, and purchase their experience at a great cost. Why should not all these start where their predecessors ended, and not where they began? Education can enable them to do so. The application of science to the useful arts has changed, in the last half century, the condition and relations of the world. It seems to me that we have been somewhat neglectful in the cultivation and encouragement of the scientific portion of our national economy."—*Alb. Cult.*

METHOD OF DETERMINING THE WEIGHT OF CATTLE.—The following method of ascertaining the dead weight of cattle by measurement when alive, has been adopted to a considerable extent. It is found to be an expeditious mode; and if not to be implicitly depended upon, at least furnishes a very important assistance to the judgment of the dealer.

Rule.—Take the *girth* of the beast by measuring round with a string or tape close behind the shoulder-blade, and the length by measuring from the fore part of the shoulder-blade, along the back, to that bone of the tail which is in a perpendicular line with the hind part of the buttock. Multiply the girth (in feet) by itself, and that product by the length, and then again by 42. The last product, divided by 100, will give the weight in Smithfield stones of eight lbs. each. If stones of 14 lbs. are required, the multiplier will be 24 instead of 42.—*Baxter's Library, A. K.*

HOW A FARMER OUT WEST PRESERVES HIS EGGS.—A gallon pot is filled with eggs; and one pint of lime, of the consistency of common white wash, poured in, and the pot filled with water. A board is then placed on the top, and the water, which is never changed, as well as the eggs, remains pure and sweet. This practice is the one most common in France, the inhabitants of which, to their love of frogs and soup, add also it appears, a very commendable taste for eggs.

A VALUABLE TABLE.—The following table compiled from the calculations of J. M. Garnett, Esq., of Virginia, will be found exceedingly valuable to many of our mechanical readers:

A box 24 inches by 16 inches square and 22 inches deep will contain *a barrel*, or 10,852 cubic inches.

A box 24 inches by 16 inches square and 11 inches deep, will contain *half a barrel*, or 5,476 cubic inches.

A box 16 inches by 16.8 inches square and 8 inches deep, will contain *one bushel*, or 2,150.4 cubic inches.

A box 12 inches by 11.2 inches square and 8 inches deep, will contain *half a bushel*, or 8,075 cubic inches.

A box 8 inches by 8.4 inches square and 6 inches deep, will contain *one peck*, or 537.1 cubic inches.

A box 8 inches by 8 inches square and 4.2 inches deep, will contain one *half peck*, or 268.8 cubic inches.

A box 7 inches by 4 inches square and 4.8 inches deep, will contain a *half a gallon*, or 131.4 cubic inches.

A box 4 inches by 4 inches square, and 4.2 inches deep will contain *one quart*, or 67.2 cubic inches.

The measures come within a small fraction of a cubic inch, of being perfectly accurate, as near indeed as any measures of capacity have ever yet been made for common use.

KICKING COWS.—Some farmers and experienced dairy are greatly troubled with unruly milkers, and frequently allow themselves to get into a passion, and abuse them cruelly. This is bad policy. Cruelty never yet cured an animal of this defect, but on the contrary, tends to confirm it. The following remedy for the "kicking evil," was published some time since in the papers, and in several instances which have fallen under my observation, has been attended with complete success.

"If you have an unruly milker, never abuse her. If she is young make a pen just large enough to admit the animal and the milker; put her in and secure her by stretching a chain, or an inch rope across it, behind her. Take another chain or rope of suitable size, and from twelve to fifteen feet in length, and fasten one end of it to a post behind the animal, and very nearly its length distant from her, securing the other end to her leg, just above the foot, drawing it back into the position in which it is naturally placed when she is milked. This done you can seat yourself, and milk without trouble." It is not unfrequently the case that valuable animals are utterly ruined by thrashing and beating, whereas they should be kindly and gently treated, and soothed rather than exasperated.—*Germantown Tel.* B.

A drop or two of honey well rubbed on the hands while wet, after washing with soap, prevents chapping, and removes the roughness of the skin. It is particularly pleasant for childrens' hands and faces in cold weather.—*Selected.*

CONTENTS OF AUGUST NUMBER.

Burr's Seedling Strawberries. Reporting Facts, ... 97
Wheat Crop. The Plum. The Strawberry. Inoculation—Downing,s Method, ... 98
Durham Cattle—Bakewell Sheep, &c. Fine-wooled Rams. More about Soap. Kiln-drying Indian Corn, ... 99
Pears on Quince Stocks—Root Pruning, ... 100
Choice of Trees and Shrubs for Cities and Rural Towns, ... 101
Production and Preparation of Corn for the European Market, ... 102
Essay on Hornless Cattle, ... 103
Dutch Husbandry, ... 104
Subsoil Plowing—Bottom Lands, How to sustain and Improve the Quality of the Soil, ... 105
Agriculture of Mexico, ... 106
Remarks on Transplanting Fruit Trees in the Spring and Autumn. Horse Power, ... 107
Alpaca, or Peruvian Sheep. Hints upon Hogs, ... 108
Origin of the Baldwin Apple. Blight in Apple Trees. Green Pea Soup. Root-grafting Apple Trees. 109
What you will find in the Farmer, ... 110
How to make Good Vinegar, ... 110
On Inverting Posts. Alderney Cows. Catching Rats. Rules for Milking. Propagation of Roses from Cuttings 111
Munificent Donation. Method of Determining the Weight of Cattle. How a Farmer out west Preserves his Eggs. A Valuable Table. Kicking Cows, ... 112